THE DRAMATIC IN SURGERY

BY

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INTRODUCTION

THE following pages constitute the substance of an address which was given to the Surgical Society of Manchester in February 1928 Some of those present were kind enough to ask that it might be published and it is in compliance with their request that this essay has at last been put between covers

Surgeons are now such a 'band of brothers' that I have not hesitated to make much use of the wondrous that has been done by my many friends and by my surgical confrères the world over

G GORDON-TAYLOR

London, February 1930

THE
DRAMATIC IN SURGERY

DRAMATIC and spectacular surgery is oftentimes the result of brilliant and exquisite technique indicating mayhap the conquest of difficulties unexpected and unsought or of those against which definite provision has been made success of course should fitly consummate such achievement It is not however always thus the extirpation of a large tumour commands at all times the wonder and admiration of those who are less qualified to estimate the character of the surgery and doubtless earns the gratitude and esteem of the patient As a surgical task however such an operation is in many or most instances an exercise relatively easy of accomplishment for in very truth it is often for those morbid conditions which are *infinitely little* rather than for those which are gigantic or colossal in their magnitude that the most ex pert the most highly specialized but perchance the *least dramatic* surgery is really required

Of dramatic operations perhaps Cæsarean section proves the greatest source of attraction and wonderment to hos pital novices male or female by reason of the rapidity and extreme simplicity wherewith it is performed and be cause of that special and peculiar joy to womankind that a child is born into the world nevertheless the difficulties experienced in such an undertaking are but trifling and the degree of surgical skill required is infinitesimal when

compared with such an operative task as the safe and successful conduct of a difficult case of common bile-duct pathology, the division of the sensory root of the fifth nerve for neuralgia, or the section of the anterolateral tract of the cord for intractable pain It is interesting to note that research has now refuted[1] pre-existent ideas as to the mode of birth of Julius Cæsar[2] There is, therefore, now no cause to marvel at the extraordinary anomaly of an operation perpetuating, not the name of the surgeon who devised or first performed it, but that of the patient, or rather the offspring of the patient, upon whom the enterprise was carried out Had romance prevailed instead of truth, the term 'Cæsarean section' would have constituted a remarkable and amazing monument to surgical modesty!

The simple and the dramatic are nowhere more closely associated in surgery than in the operation for a ruptured ectopic gestation or for one of those severe abdominal hæmorrhages which result from a lutein cyst, nevertheless in no other morbid condition does surgery of such an elementary character rescue the patient in such dramatic fashion from the very jaws of death

The rapid extirpation of an ovarian cyst or hydronephrotic tumour, or the expeditious ablation of a limb, may be dramatic, but such undertakings need, for their successful performance, a degree of operative skill far inferior to that which enables the neurological surgeon to bring to a happy issue an operation for removing a pituitary tumour or a hæmangeioma of the cerebellar hemisphere[3]

Howbeit, every operator probably derives some pleasure from the successful removal of a large tumour, and the enumeration of the weight and linear dimensions of their

trophies denotes a spirit of rivalry and competition on the part of surgeons to secure a prominent place in surgical lists or tables arranged not in the order of dexterity of the craftsman but according to pounds avoirdupois or to feet or even yards of the particular organ or organs removed. When the spoils of surgical warfare are estimated by weight or calculated in terms of cubic capacity water displacement or fluid content gynæcological surgeons are at a great advantage because of the nature of the tumours with which they are confronted but increasing enlightenment of the laity in matters pertaining to health and growing confidence in surgery lead to the earlier diagnosis and more timely removal of these tumours of the uterus and its adnexa the surgery of colossal pelvic tumours has almost passed away for ever

Although the gynæcologist may have pride of place in respect of the actual size of his trophies those who are actively concerned in the surgery of other regions of the human body also experience some satisfaction in the removal of a tumour foreign body or calculus which, though small in comparison with the huge cysts and myomata of the obstetrician may nevertheless be large when judged by the standards of the particular specialty concerned

Few operators are exempt from this frailty which might be termed *surgical megalomania* and the writer's own thoughts revert not without satisfaction to the successful extirpation of some tumour or the extraction of some foreign body remarkable for magnitude and volume Inasmuch as these are the spoils of a general surgeon they constitute a motley pathological collection which includes such varied trophies as a chondroma of the innominate

Fig. 1.—Chondroma of the innominate bone removed successfully, January 1927. The supposed second rib shown in the picture measured 5 inches in diameter over 20 lbs. in weight.

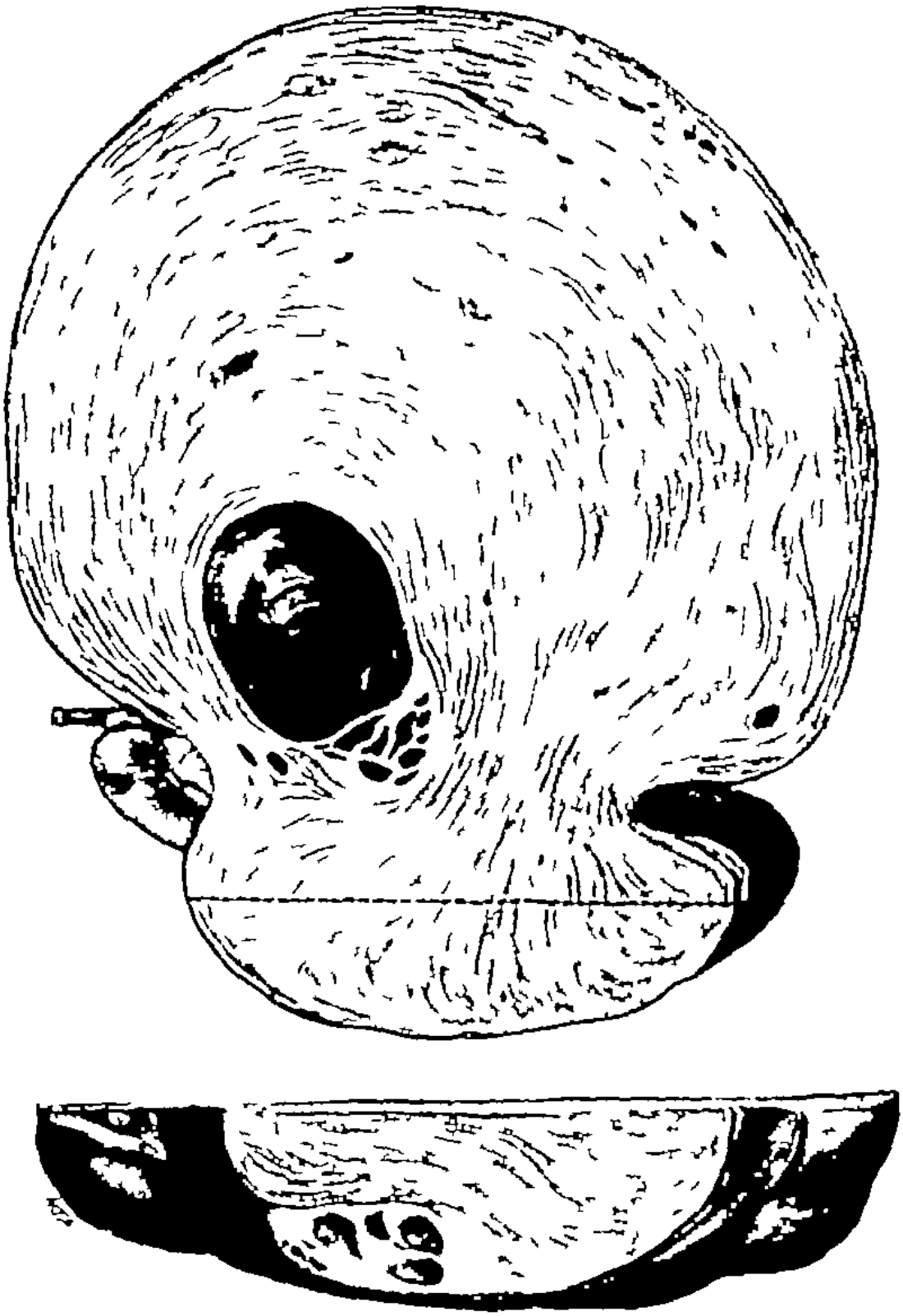

FIG. 2.—Benign renal neoplasm—adenofibroma. Removed successfully July 1921. Patient in excellent health more than eight years after. Largest benign neoplasm recorded: weight 22 lb.

bone measuring 20 inches in diameter and weighing over 20 lb, apparently the second largest tumour of this kind removed successfully[4] (*Fig* 1), a huge 22-lb benign renal tumour, which would seem to be the largest benign kidney neoplasm recorded[5] (*Fig* 2), a large fragment of shell weighing over 3 oz from a successful operation for a severe gunshot injury of the abdomen which necessitated a double resection of the prolapsed small intestine and the repair of other lesions[6] (*Fig* 3), a megacolon from a man of 50 years, which contained 28 lb of faeces and

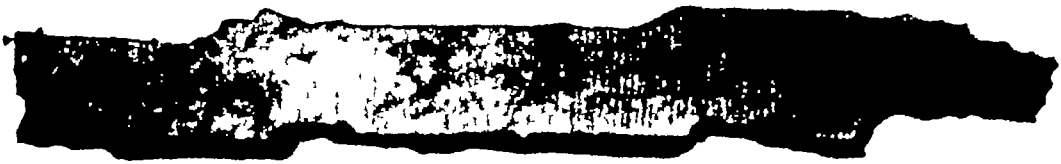

FIG 3.—Fragment of shell, natural size, penetrating wound of abdomen, hernia of small bowel, wound of bladder, fracture of rib, anterior portion of iliac crest, and pubic bone, double resection of bowel, recovery.
By courtesy of the 'British Journal of Surgery'

emitted a gas with an odour which might have put an army corps to flight, and a lady's gall-bladder which had attained the size of an enormous cucumber, and which, on a mistaken diagnosis of intestinal stasis, had been treated by the application of a heavy cannon-ball rolled round her abdomen.'

Success has on three occasions consummated such surgical undertakings of mine as the combined extirpation of rectum, uterus, and upper part of the vagina by the abdomino-perineal method, it has attended the removal of spleen, stomach, and splenic flexure for a huge sarcoma of gastric origin[7] (*Fig* 4), and in cases of extensive gastric carcinoma has followed on five or six occasions the resection

FIG. 4.—Sarcoma of stomach, spleen, omentum, and splenic flexure of colon; successfully removed December 1917. Patient in excellent health more than two years after. Paravertebral anæsthesia (Appert) supplemented by splanchnic block.

of stomach and transverse colon,* and even a segment of small bowel as well, nevertheless the ultimate issue in such cases must always be uncertain † Protracted survival, however, after operations involving the excision of uterus and vagina as well as the lower bowel has been noted by Pybus,[8] Clayton-Greene,[9] and Maynard Smith [10]

Multiple Bowel Resections[11]

Poppert appears to hold the numerical record in this respect, his patient, who had been wounded by a pistol-shot, survived a quintuple excision of intestine

During the Great War multiple resections of bowel were generally regarded as being rarely successful, but it must be remembered that it was only the cases of very severe intestinal injury or very gross damage to the mesentery that required such drastic measures, and it is interesting to note that in the great majority of the eleven personal cases of *double resection* of intestine of which I have notes, other wounds of the bowel required repair by means of suture Of these eleven cases four recovered.

No case of survival after a *triple resection* of bowel for gunshot injury during the War of 1914–18 is known to me, but success has, of course, consummated such undertakings in civil surgery I have myself on at least two occasions

* Total gastrectomy has been many times successfully performed since Schlatter's first case in 1897 Sub-total gastrectomy may be crowned with success when combined with an excision of transverse colon or splenic flexure, and even when the removal of a piece of small intestine or a splenectomy is superadded, but a *complicated total gastrectomy* appears to be beyond the human power of recovery, and, in my experience and to my knowledge, always proves fatal (*Fig* 5)

† Grey Turner mentions a case which survived over eight years (*Encouragements in Cancer Surgery*, p 42)

brought to a happy issue cases demanding a triple bowel excision Eight years ago I removed from a man of 58 years an abdominal tumour, the operation involved the ablation of the ileocæcal region, a piece of the transverse colon, and 2 ft of jejunum The mass was regarded at the time of operation as malignant, but subsequent microscopic examination proved it to be of a granulomatous character and the patient still survives in excellent health.

Eighteen months ago I operated upon a lady of 32 years who was referred to me for a small-intestine fistula—the final misery of an illness of ten years and the aftermath of seven operations at the hands of obstetricians and others At operation the fistula was found to lead to a mass in the pelvis and lower abdomen It was thought that a bold policy might succeed where *seven* half-hearted efforts had failed, the mass was exsected, a triple end-to-end suture of intestine was found to be necessary, and several other tears of both small and large bowel required repair The patient recovered, rapidly gained weight, and has almost forgotten the bed of sickness to which she had practically been confined for almost a decade The mass proved to be a left-sided tuberculous salpingo-oophoritis; the right appendages had been previously removed by earlier operators

Over three years ago I removed a malignant growth of the pelvic colon which involved a coil of small intestine and the fundus of the bladder, this complicated resection has been followed by a successful result up to the present time On several other occasions I have successfully performed multiple bowel resection for cancer of the colon, and even for cancer of the pelvic portion of the rectum which had involved the small intestine (*Figs* 6–8).

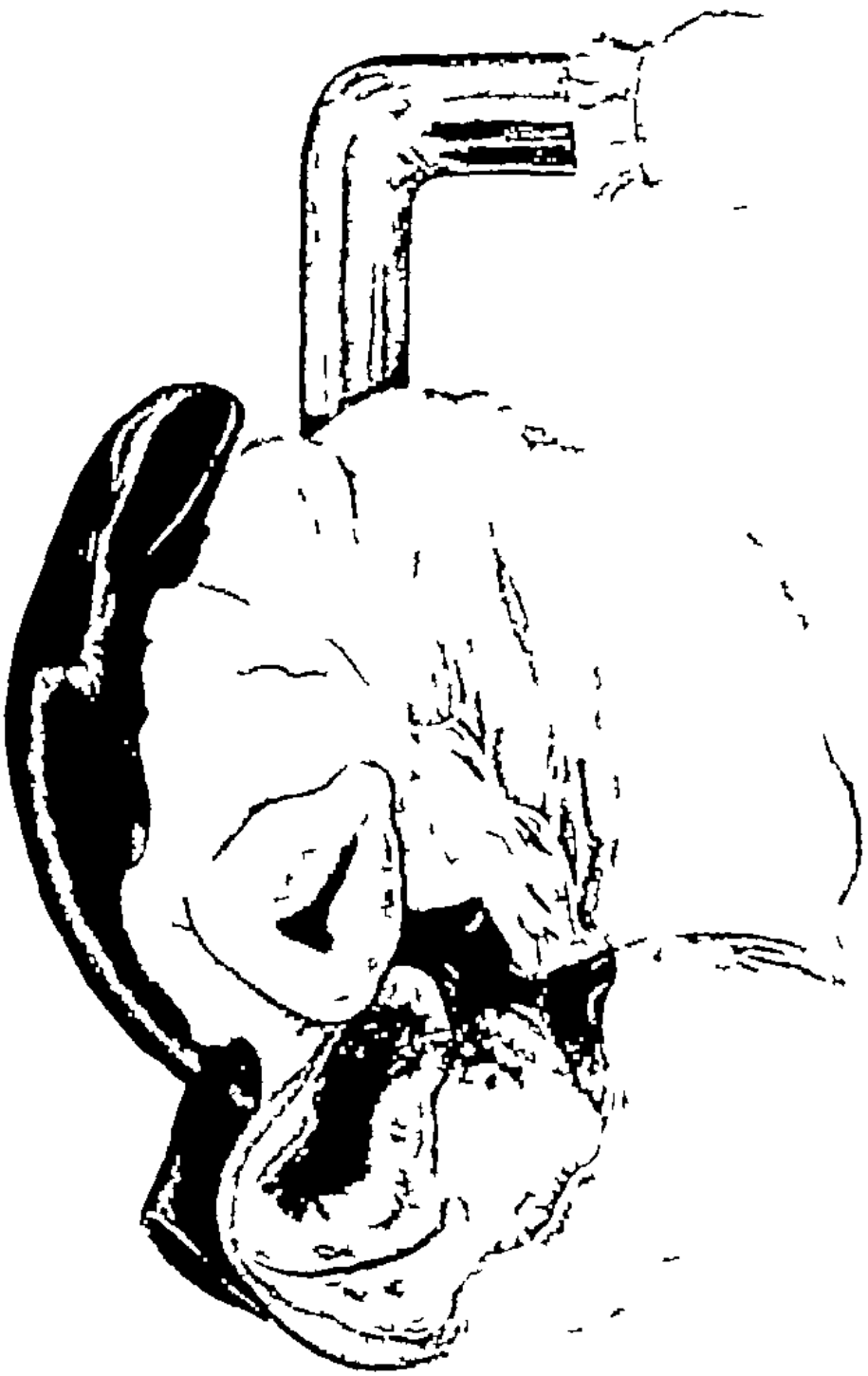

FIG. 6.—Excision of carcinoma of pelvic colon and coil of small intestine infiltrated in growth. End to-end union of small bowel sigmoid resection by Mikulicz Paul technique. Patient survived less than a year and died of general carcinomatosis.

FIG 7.—Carcinoma of rectum involving coil of small intestine. Tumour successfully removed by perineo-abdominal extirpation of rectum, end to end union of small intestine. Permanent colostomy.

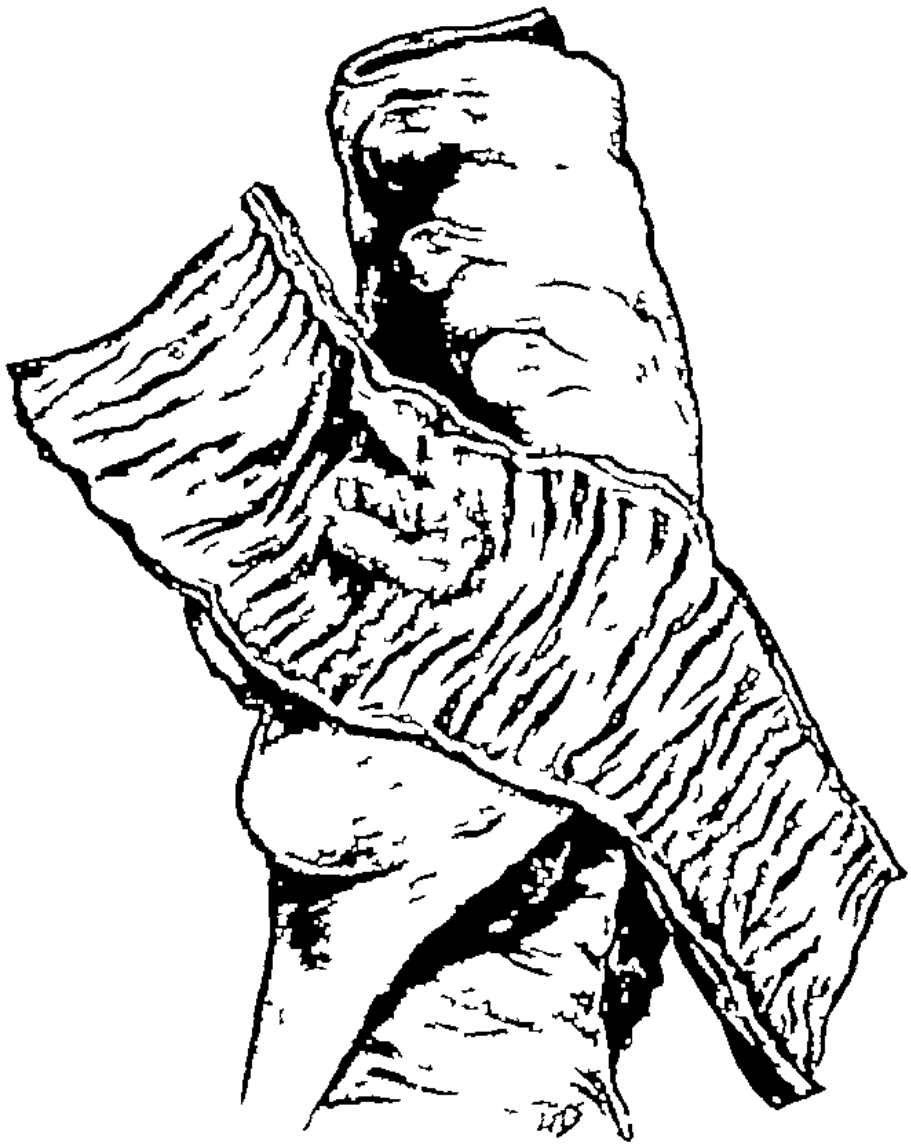

Fig. 8.—Same case as *Fig.* 7. Intestine opened showing fistula between rectum and small intestine; orifice surrounded by growth.

What a message of optimism and hope, and what an injunction to take fresh courage in the operative attack upon intra-abdominal malignant disease, is to be found in the annual oration of the Medical Society of London delivered by Grey Turner in 1929 [12] Surgical pessimism should vanish when the list of his twenty-two multiple resections is scanned

"I am accustomed", he writes, "to tell students that, in dealing with cancer, the surgeon should have faith in its local nature, such faith as is suggested by Millet's famous picture, 'The Angelus' Without such faith, the half-hearted efforts of the timorous often rob them and their patients of their just reward"

Surgical Technique

The dramatic in surgery may be attained alike by the *elaboration* or by the *simplicity* of the requirements which are regarded as essential to the art, it may also be the offspring of speed and dexterity Sir John Bland-Sutton was a dramatic operator, he was also remarkable by reason of the few implements he required, they were contained in a tiny case which could be carried on one finger Modern surgery, however, is characterized by the employment of much special apparatus designed to facilitate the manipulations of less skilful surgeons, to improve results in dealing with malignant and other tumours, and to expedite and assist the more specialized forms of surgery

The terrific mortality of operations for the removal from the thoracic portion of the gullet of artificial teeth and other foreign bodies accidentally swallowed was well known to older surgeons, this has been completely altered since

the introduction of the œsophagoscope A vast amount of ingenuity has been spent on devising special instruments for dealing with difficult problems concerned with the extraction of foreign bodies impacted in this tube such as open safety pins with the point projecting upwards or impacted dentures with the hooks caught in the mucous lining of the gullet etc The tooth plate may even require division by special stout shears introduced through the œsophagoscope tube before it is possible to disengage this type of foreign body it is indeed a source of pleasure to myself that whereas this manœuvre was first executed on the other side of the Atlantic by Chevalier Jackson the operation was performed for the first time in England by my colleague Somerville Hastings at Middlesex Hospital

Fractures of upper dental plates have been produced by the concussion of shells bursting close to soldiers who have nevertheless sustained no accompanying damage to the upper jawbone and I have recorded elsewhere[13] the story of a tooth plate thus broken where the soldier rendered unconscious with a fractured skull through being buried in a dug-out swallowed one half of the broken denture This I successfully extracted through an œsophagoscope many days after The sequel is interesting for the man developed a pulsating exophthalmos as the result of the fracture of the base of his skull and the internal carotid had subsequently to be ligated in England

Environment of Surgery

Surgery may have a dramatic aspect because of the surroundings in which it is practised. It is difficult to imagine a more dramatic environment for surgery than

the 'dug-out' which Basil Hughes of Bradford built in a communication trench when he was a regimental medical officer; here a wounded man could be brought in four or five minutes after being hit Six abdominal cases associated with severe hæmorrhage were operated upon by Hughes[14] here and two recovered, these were men who, in his opinion, would never have lived to see a casualty clearing station Urgent amputations were also performed in this dug-out, and on more than one occasion Hughes and Burke amputated in the front-line trench in order to prevent death from hæmorrhage Is it to these enterprising surgeons that Sir Philip Gibbs alludes in his *Realities of War*?

A combination of gallantry and a spirit of research in certain individuals made the scientific investigation of certain problems of military surgery a possibility during the Great War Such inquiries were pursued even in the regimental aid-post, the 'fire-trench', and in detached outposts where advantage had to be taken of a full moon in order to collect blood-pressure tracings of members of these small garrisons stationed out in exposed positions in No Man's Land It was under such conditions that E. M Cowell[15] worked and investigated wound shock

Kenneth Walker, who was in charge of the Third Army Shock Centre, was the first to carry blood transfusion forward to the dressing station and even to the regimental aid-post This surgeon[16] made a point of being present on the occasion of any large trench raid, in order to perform blood transfusion in case of need The particular spot selected for the transfusion depended on local conditions, being in some cases a well-equipped aid-post,

and in others an advanced dressing station Whatever may have been the clinical value of this arrangement the moral effect upon the men going over was so satisfactory that the combatant services soon developed a habit of sending word of an impending raid to the Shock Centre

Norman Guiou of the 2nd Canadian Division and Major Holmes à Court of the Australian Medical Corps made excellent arrangements of this sort for dealing with the severely wounded and saved many lives that would otherwise have been lost

Success in surgery and especially in the abdominal surgery of warfare was determined in no small measure by the military situation and by the varying possibilities of bringing the wounded man and the surgeon together at the earliest possible moment and under suitable conditions for surgical treatment It is probable that the intrepidity of the stretcher bearers and the tireless devotion to duty and courage of the ambulance drivers who strove to bridge the gap which separated the fighting line from the casualty clearing station may have weighed even more heavily than surgical skill in turning the scale in favour of the man who was wounded in the chest or abdomen

The aeroplane has been employed in war and also in peace to bring surgical and indeed medical aid to the wounded and to the sick As a means of rendering first aid the aeroplane may be invaluable

Graeme Anderson [17] surgeon author artist and air pilot who met his death tragically on the tennis court a year or two ago was the first to institute in 1915 this method of travelling to aeroplane accidents across country richly intersected with awkward ditches and therefore somewhat

inaccessible to motor ambulance traffic On one occasion an aeroplane which had just started for another aerodrome was observed on leaving the ground to drop one of its wheels Anderson, on a faster machine, reached the aerodrome of destination first, and was actually awaiting the casualty which was in those days almost inevitable

The French conceived the idea of having aerial ambulances in order to convey quickly 'battle casualties'—especially those with gunshot wounds of abdomen and chest—from the aid-posts just behind the firing line to hospitals well equipped for dealing with such cases Nemirovsky and Tilmant subsequently organized an aeroplane, which they named the 'Aerochir', to carry a pilot, a surgeon, and a radiographer who could also act as surgical assistant , this 'Aerochir' carried X-ray apparatus, sterilizer, instruments, dressings, etc By its means it was thought that (1) surgical aid could be brought to the patient quickly , (2) the surgeon could be brought to the patient, and the patient thereby saved a journey before receiving surgical aid ; (3) it would not increase the traffic on roads used for purely military purposes , (4) formations of aeroplanes could rapidly transfer surgeons from one part of the fighting line to another

Some years ago a great stir was aroused by the announcement in the papers of a Handley-Page having conveyed a surgeon and a patient with appendicitis from Paris to London across the Channel—surely a journey of convenience rather than of necessity , but even before this event was noised in the public Press, battle casualties had been conveyed a similar distance by aeroplane in the Somaliland campaign against the Mad Mullah, and one soldier at least

had to be transported by air 225 miles for an amputation of a lower limb

The transport of patients by aeroplane is now a common occurrence and the Imperial Airways have informed me that on many occasions three seats have been engaged on their ordinary service aircraft in order that a patient travelling thereby might be accommodated on a stretcher They also gave me these further notes relating to the aeroplane in surgery A special aeroplane was engaged at the request of a London surgeon to travel from London to Le Touquet and in this case the operator reached his destination and operated on the patient within three hours of receiving the telegram in London On another occasion a special machine to Arosa Switzerland was engaged by a London surgeon in this case also the destination was reached in time for the surgeon to operate the same day

A dramatic story came under my notice in France A distinguished and gallant Canadian officer who had gained the V C D S O and M C was wounded near Arras He was brought down by aeroplane to Agnez Duisans where Richard Charles of Ipswich was working He was transfused with blood and a severe abdomino-thoracic wound was dealt with the stomach had been damaged and was sutured and his spleen which was badly injured was removed. The officer recovered returned to duty and led his regiment after the Armistice into Cologne !

Recurrent Battle Casualties

It must have been but seldom that a soldier can have had the misfortune to receive twice a penetrating wound of the abdomen involving the intestinal tract and to

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Recurrent Battle Casualties

It must have been but seldom that a soldier can have had the misfortune to receive twice a penetrating wound of the abdomen involving the intestinal tract and to

enjoy the good fortune to recover from the injury on each occasion A soldier was shot through the body from side to side at Loos in September, 1915[18] Despite the fact that he was unoperated upon on this occasion he recovered, and was again shot in the abdomen during the first battle of the Somme in 1916 He was operated on by Gordon Bell* in the 21st Clearing Station at Corbie, and when the abdomen was opened several perforations of the small bowel were found in the vicinity of a mass of adhesions The recently wounded and the adherent portions were resected and the patient made a good recovery Examination of the specimen revealed an entero-enterostomy between two adjacent loops, and in addition there were several small herniated diverticula of the mucous membrane, demonstrating clearly the spontaneous closure of the previous intestinal wounds

Some patients may be said to have many 'lives' An Australian lieutenant was gassed in the beginning of June, 1918 On the evening before the Hamel 'show' of July 4, 1918, while on his way to the trenches, he was wounded in the abdomen by a piece of shell By a lucky chance he was near an advanced dressing station, whence he was speedily transferred to my casualty clearing hospital, where he arrived in poor condition. He recovered from a fairly lengthy bowel resection, but had to be prematurely evacuated to the Base. Here the convalescing officer was sorely tempted to partake of injudicious food and of forbidden fruit at the hands of V A D s and others, but courageously he braved the unpopularity which he incurred by turning

* Now Professor of Surgery at Dunedin, New Zealand

a deaf ear to their blandishments On his way across the Channel he was torpedoed in the hospital ship *Anglia* and was rescued from drowning by being dragged out of the water by a rope round his waist Wet through and in soaking pyjamas he spent two hours in a small boat and six subsequent hours on the deck of a destroyer He made a complete recovery and his abdominal wound which had been closed with through and through sutures only seemed none the worse for the patient's untimely immersion He was indeed destined to survive!

It is axiomatic that abdominal wounds of gunshot origin involving several organs were attended with a heavier mortality than those which implicated a single viscus and this truth applies still more forcibly to simultaneous wounds of more than one body cavity Separate penetrating wounds of chest and abdomen and especially the abdomino-thoracic wounds with diaphragm involvement were amongst the most severe injuries which reached the casualty clearing zone It is for the statistician not the surgeon to determine whether a man who has been wounded on the first occasion in the lung and who returns to the fighting line to be subsequently wounded in the abdomen has a better chance of survival than the soldier who receives an abdomino-thoracic wound implicating both cavities simultaneously Dr Soltau[19] of Plymouth in a most valuable contribution estimates the total mortality of 100 chest cases reaching a medical formation as 27 5 that is to say if we exclude those wounded in the chest who die on the field of battle 72 5 per cent of the remainder should recover

The results of the operative treatment of abdominal

wounds by the various 'casualty clearing surgeons' during the War showed a recovery-rate of about 50 per cent, if these cases were selected with some care, naturally the recovery-rate was lower where the surgeon exercised less discretion in his choice of case, or was willing to extend the benefits of surgery to patients however desperate their condition Douglas Taylor and Geoffrey Marshall's[20] 74 per cent recovery-rate in one series of 101 cases was the most remarkable figure attained during the War

The statistics of abdomino-thoracic wounds[21] in the earlier years of the War were gloomy reading, but out of 207 cases of this type operated upon by certain of the Fourth Army surgeons in the summer and autumn of 1918 which I collected and analysed, 66 6 per cent got well Although in 1918 I personally operated upon 75 abdomino-thoracic cases, it was my lot to operate upon but few soldiers for a gunshot wound of chest or abdomen who had been hit in one of the body cavities previously · my own figures, therefore, afford no basis for comparison

One such case of my own is, however, of interest · A private in the 16th South Irish Division had received a severe penetrating wound of the chest in 1916, a resultant empyema was slow to heal He was wounded a second time on February 23rd, 1918, when out at night in No Man's Land While lying on the ground he was rushed by a German officer, who shot him with a revolver at the distance of a few feet I found it necessary to remove two considerable segments of his small intestine He made a somewhat stormy convalescence by reason of his chest, but ultimately recovered, and I used to hear from him on the anniversary of his second wounding

The Circumstances of Injury or Disease

The circumstances of the injury or of the morbid condition may present the case in a somewhat drastic guise thus a bilateral fracture of the humerus many broken ribs severe muscular and tendinous injury to each forearm and the subsequent development of a Volkmann's contracture was the penalty paid by a foreman standing in the roadway who caught one of his workmen weighing 13½ stone the latter fell off a building 75 ft high and his life was saved by the patient in the street below

I have recently known a patient rupture his own intestine when manipulating his hernia and some years ago there came under my care a lady in whom an intra-abdominal volvulus of the small bowel had been produced by the misdirected efforts of the patient and her relatives to reduce a femoral hernia which had become incarcerated

The commonplace hydrocele of the tunica vaginalis has been ruptured under bizarre conditions A Scotchman walking down Charing Cross Road on the way to Charing Cross Hospital to have the hydrocele tapped saw a sixpence on the pavement and stooped to pick it up he ruptured the hydrocele and was brought to Middlesex Hospital instead A similar accident once occurred during a game of billiards in a public house lately demolished where now stands part of the newly built wing of Middlesex Patients sitting in arm-chairs have burst their own hydroceles by some movement of their lower limbs but rupture has occurred spontaneously without any movement on the part of the owner and even has happened during sleep

One could recount almost indefinitely dramatic incidents which have been causally concerned with ablation of portions of the intestinal canal The abundant literature relating to gunshot wounds of the abdomen during the Great War—a literature based upon such a vast wealth of experience—far transcends in magnitude any dealing with penetrating wounds of the abdomen received in any previous campaign or produced under peace conditions, whether the damage be inflicted by bullet, by dagger or knife, the spike of a railing, the horn of an animal, the instrument of the abortionist, or the maladroit efforts of some inexpert pseudo-obstetrician It is authenticated that soldiers have walked back with protruding bowel to their own lines and have recovered by the aid of surgery ; bayonet wounds involving even the bowel have been on very rare occasions successfully treated , and many of us have extracted curious missiles from the belly of the injured soldier—pennies, francs, buttons, the finger of a comrade, and even fragments of the pages of a newspaper

Bland-Sutton[22] has recorded the following extraordinary case " In 1905 I was asked one midnight to see a woman who had been curetted eight hours previously with the hope of relieving painful menstruation In the course of the operation the uterus was perforated by a dilator and a coil of ileum protruded through the hole The medical attendant thought this was a product of conception and withdrew more than six feet of intestine He cut off one end and forcibly pulled on the other, and returned the patient to bed thinking that she would quickly die At midnight he recovered his presence of mind and asked me to help him I opened the abdomen, swabbed out the

effused blood closed the rent in the uterus resected that portion of the mesentery which had been deprived of intestine and joined the cut end of the ileum into the cæcum of the ileocæcal valve for the ileum had been torn out of the cæcum The patient recovered I saw her six years afterwards in excellent health and quite ignorant of the nature of the serious ordeal through which she had passed'

Sarmoff[23] has also reported a case of a woman of 36 years who was curetted after the miscarriage of a two and a half months fœtus The uterus was perforated by the curette and a number of coils of small intestine escaped outside the body Laparotomy was performed an hour and a half after the mishap and revealed a wide rent of the uterus a sub-total hysterectomy was performed 15 ft of small bowel were resected and the patient made a good recovery

But uninjured intestines may make their escape from the cœlom through wounds which have been carelessly sutured by surgeons without the wise precaution of tension sutures the absence of dressings and of a restraining binder has sometimes rendered the vaunted economy uneconomical

Surgery and Sport

Intestinal catastrophe may befall the athlete in the very midst of his game I have known a patient perforate a duodenal ulcer while playing cricket and at the very moment that he was turning to run back to his batting crease to complete a couple for a hit into the long field he collapsed and was run out it was his thirteenth run'

One could recount almost indefinitely dramatic incidents which have been causally concerned with ablation of portions of the intestinal canal The abundant literature relating to gunshot wounds of the abdomen during the Great War—a literature based upon such a vast wealth of experience—far transcends in magnitude any dealing with penetrating wounds of the abdomen received in any previous campaign or produced under peace conditions, whether the damage be inflicted by bullet, by dagger or knife, the spike of a railing, the horn of an animal, the instrument of the abortionist, or the maladroit efforts of some inexpert pseudo-obstetrician It is authenticated that soldiers have walked back with protruding bowel to their own lines and have recovered by the aid of surgery , bayonet wounds involving even the bowel have been on very rare occasions successfully treated , and many of us have extracted curious missiles from the belly of the injured soldier—pennies, francs, buttons, the finger of a comrade, and even fragments of the pages of a newspaper

Bland-Sutton[22] has recorded the following extraordinary case " In 1905 I was asked one midnight to see a woman who had been curetted eight hours previously with the hope of relieving painful menstruation In the course of the operation the uterus was perforated by a dilator and a coil of ileum protruded through the hole The medical attendant thought this was a product of conception and withdrew more than six feet of intestine He cut off one end and forcibly pulled on the other, and returned the patient to bed thinking that she would quickly die At midnight he recovered his presence of mind and asked me to help him I opened the abdomen, swabbed out the

effused blood closed the rent in the uterus resected that portion of the mesentery which had been deprived of intestine and joined the cut end of the ileum into the cæcum of the ileocæcal valve for the ileum had been torn out of the cæcum The patient recovered I saw her six years afterwards in excellent health and quite ignorant of the nature of the serious ordeal through which she had passed

Sarmoff[23] has also reported a case of a woman of 36 years who was curetted after the miscarriage of a two and a half months fœtus The uterus was perforated by the curette and a number of coils of small intestine escaped outside the body Laparotomy was performed an hour and a half after the mishap and revealed a wide rent of the uterus a sub total hysterectomy was performed 15 ft of small bowel were resected and the patient made a good recovery

But uninjured intestines may make their escape from the cœlom through wounds which have been carelessly sutured by surgeons without the wise precaution of ten sion sutures the absence of dressings and of a restrain ing binder has sometimes rendered the vaunted economy uneconomical

Surgery and Sport

Intestinal catastrophe may befall the athlete in the very midst of his game I have known a patient perforate a duodenal ulcer while playing cricket and at the very moment that he was turning to run back to his batting crease to complete a couple for a hit into the long field he collapsed and was run out it was his thirteenth run'

It would obviously be indelicate for the Press to refer to the development of a testicular neoplasm after an injury to that organ from a fast ball, but such a calamity has indeed occurred nevertheless the rupture or tear of a few muscle fibres may have a momentous significance if it keeps Hobbs out of the English eleven at Test Match time, and rightly furnishes copy for the newspapers

It is doubtful if surgery and cricket have ever been associated more dramatically than in the memorable England and Australia match at Leeds in July, 1921 Hobbs was seized with appendicitis the last two hours of the first day's play, and "the surgeons did their work on the greatest batsman of them all at mid-day just as the battle went its hardest against his side" Lord Tennyson, the new English captain, had his left hand split in the first hour of the game, yet with great courage, his damaged hand swathed in bandages, scored 63 runs in eighty minutes and saved the follow-on But Dame Fortune frowned still on the English side, for Brown strained his leg badly, and Douglas endured the mental disquiet of knowing that "his wife, like Hobbs, was a victim to appendicitis, and stood urgently in need of an operation"[24]

Football may lead to manifold injuries it may occasion a ruptured bowel or may damage a kidney Even the spectator may sustain serious harm! I have known the urinary bladder to be ruptured during a mêlée after a Cup Tie at Wembley, owing to a blow inflicted by some too ardent supporter of the rival team The serious character of the damage was not realized at the time by the patient or his friends, the amount of alcohol which both parties had consumed was in large part responsible for his belated

application for admission to hospital nearly forty eight hours after the match The young man's almost uneventful recovery from the operation which revealed the presence of several pints of urine in his peritoneal cavity bespeaks a healthy condition of his urogenital tract and the alcohol if it did retard his application for admission did not at any rate prolong his sojourn in hospital

There seems good reason for belief that *injury* does sometimes stand in definite *causal relationship to the development of a neoplasm* more especially of a sarcoma Ewing[24] has written thus The traumatic origin of malignant tumours forms a voluminous and highly controversial chapter Avoiding controversies it must be admitted that sarcomas of bone and brain and more rarely still carcinoma arise after single traumas some form of tissue predisposition is probably an essential factor The following case appears to be definitely connected with a football accident

A boy of 17 years while playing football sustained a blow in Scarpa's triangle on the left side the injury was sufficiently severe to lame him and he was unable to continue the game His incapacity persisted and he consulted his doctor a radiogram at this period revealed no bony change For several weeks thereafter the patient was lost sight of by his medical attendant having betaken himself to some unqualified persons who enjoyed the confidence and patronage of the principal local football club By these he was massaged and manipulated but a swelling having now appeared in the adductor region of the left thigh in the vicinity of the cruroscrotal fold the patient returned to his doctor who sent him to Middlesex

Hospital forthwith A well-marked tumour could now be felt in the upper part of the thigh and in the perineum, where it could be made out on rectal examination and on

FIG. 9.—Radiogram of cystic osteoclastoma of left innominate bone. Inter-iliо-abdominal amputation successfully performed February, 1929. Spinal anæsthesia and light general anæsthesia (Dr. Crumpton).

deep palpation in the urogenital triangle and left ischio-rectal fossa; it was fixed to the pubic bone, and was much more considerable on the deep surface of the bone than

on its superficial aspect The clinical characters of the swelling the rapidity of growth the appearance of the radiograms and the marked contrast between the first and second (*Fig* 9) together with the history of injury prompted the diagnosis of a sarcoma which was shared by several of my colleagues

The case was considered to be one more likely to be permanently benefited by amputation than by radium therapy it was thought that the relative inaccessibility of the tumour might lead to imperfect radiation An inter pelvi-abdominal amputation was accordingly performed the boy stood the operation well and left the hospital in about a month's time *Figs* 10 and 11 show the removed innominate bone and the growth. The histological report showed the tumour to be a cystic osteoclastoma (*Fig* 12) No radiological evidence of bony change in any other part of the skeleton was forthcoming

It is indeed surprising that an amputation of such ghastly character should be associated with an operative mortality so relatively low Hogarth Pringle[36] collected 43 cases up to 1916 and found the mortality to be 58 1 per cent In these days of anoci association blood transfusion etc the mortality of this operation has probably sunk to a lower figure Nevertheless one can but marvel at the extraordinary resistance of the human frame to injury and mutilation of such gigantic character

Rugby knee is a term calculated to mislead it does not connote a frequent pathological lesion produced by football but the name was given by Dukes of Rugby to the condition which with lack of the patriotic we designate in our text books Schlatter's disease it was

Fig. 18.—Nakdevo appe
cystic osteoclastoma into
performed February, 1929
istered by Dr Crumpton

FIG. 11.—The same bone as *FIG.* 10 showing the growth

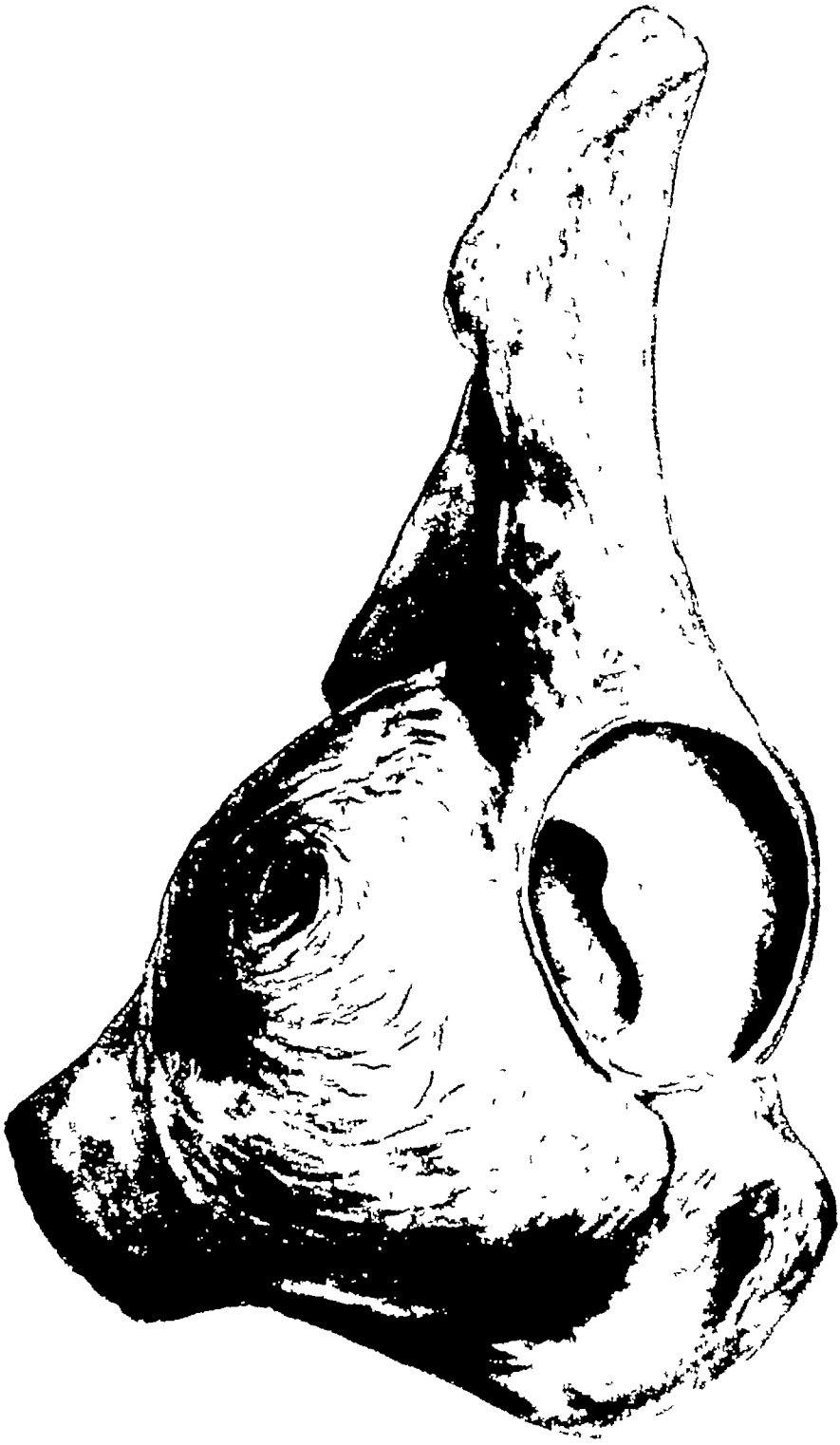


FIG. 10.—Naked eye appearance of innominate bone, the seat of a cystic osteoclastoma. Inter ilio abdominal amputation successfully performed, February, 1929. Spinal and light ether anæsthesia administered by Dr. Crampton.

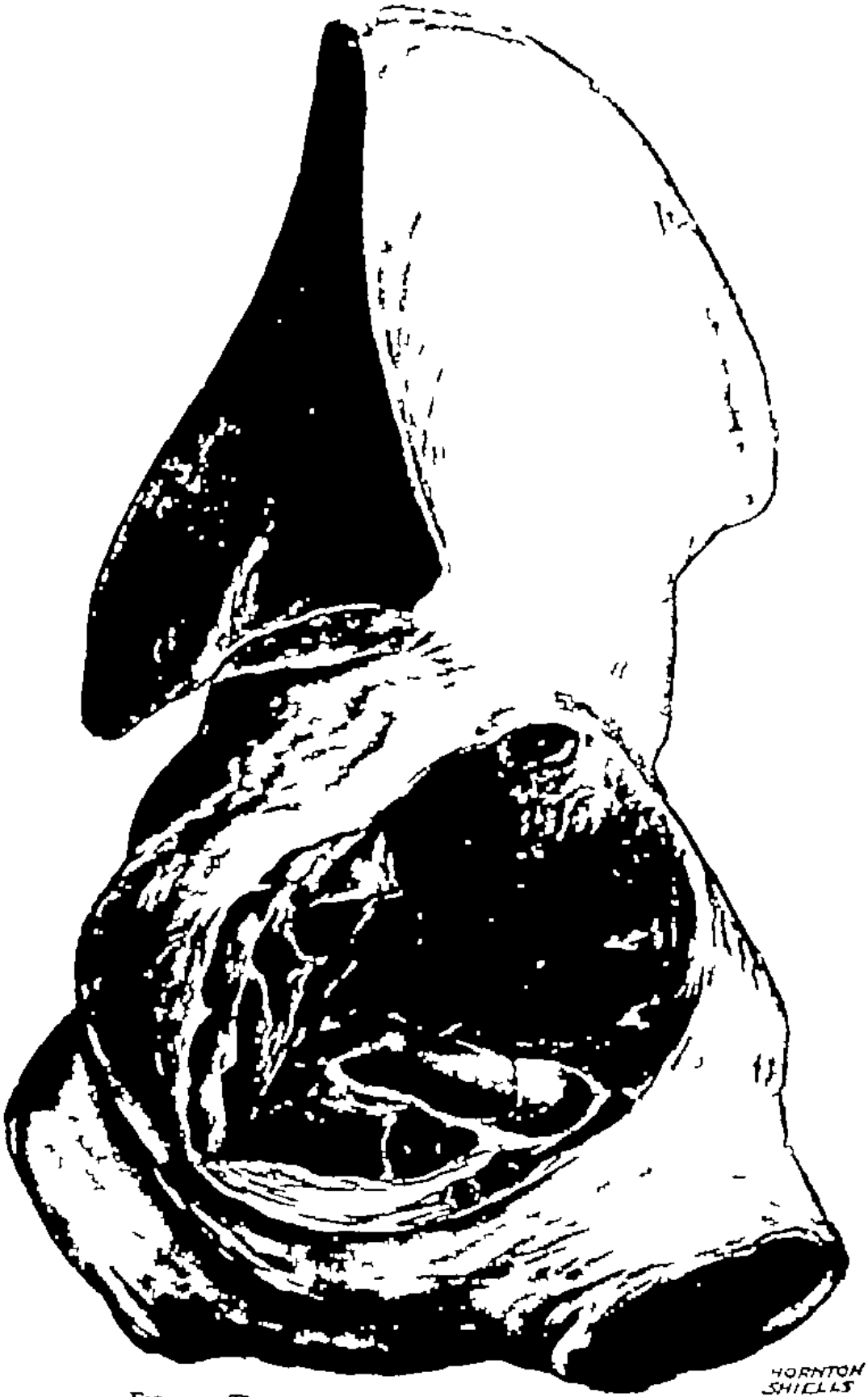


FIG. 11.—The same bone as FIG. 10 showing the growth

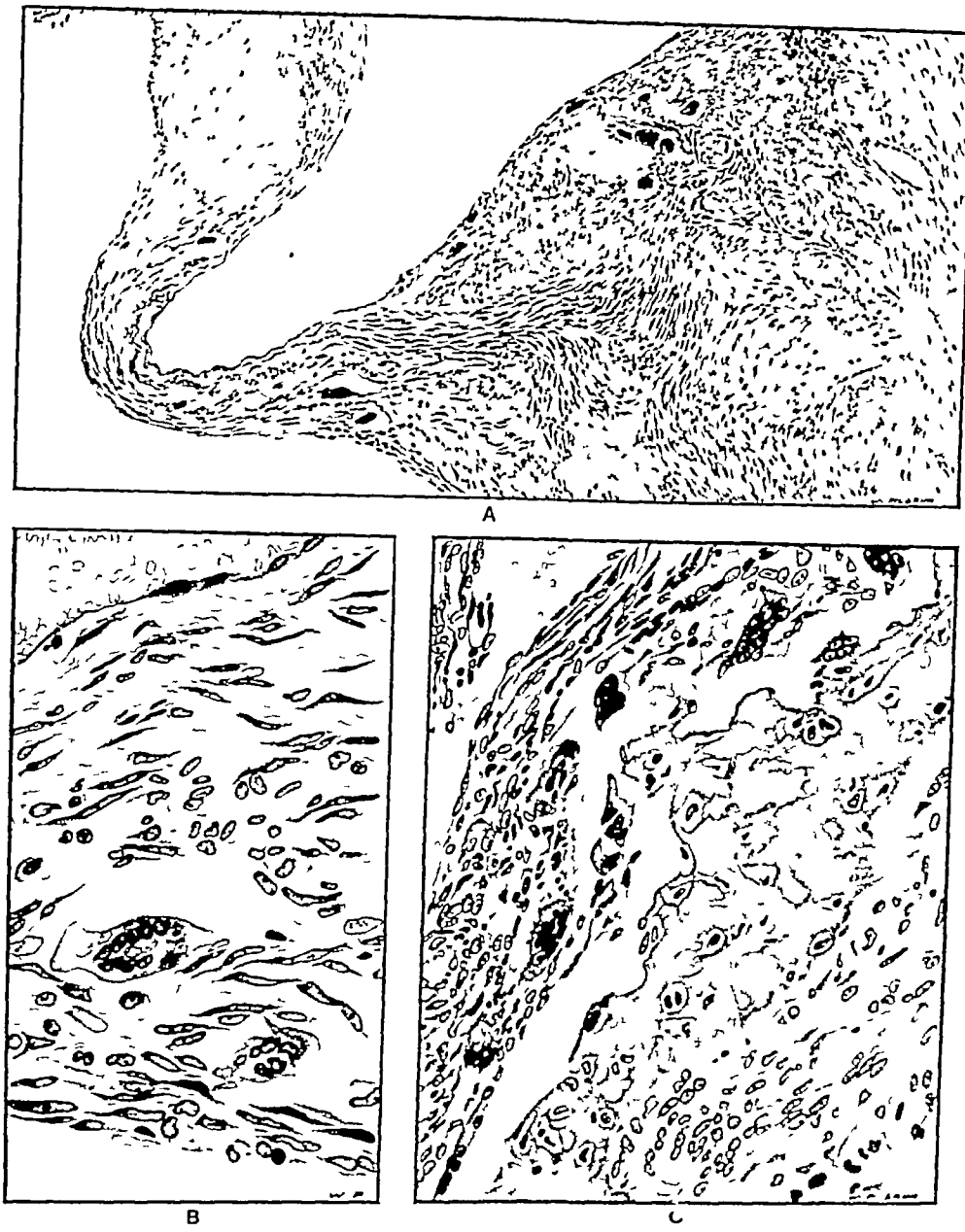


FIG 12.—Microscopic appearance of tumour shown in *Figs* 10 and 11 A, Low-power drawing of wall of blood-filled cyst in the tumour B, Higher power of portion of A showing cyst wall with osteoclasts C, Portion of tumour showing erosion of bone by osteoclasts

regarded by Dukes perhaps erroneously as being relatively common in members of the shooting eight at that school

Tennis leg and tennis elbow are commonplace unless these lesions perchance afflict the stars but John Fraser[27] has recently sounded a note of alarm for those who dance by describing as the dancer's fracture a break of the fifth metatarsal bone (!)

Even at golf I have known a man to be seized with an acute abdominal pain of terrible and agonizing character he was found at operation to have an embolus of a branch of his superior mesenteric artery and some seven or eight feet of bowel were in a state of gangrene The removal of this quantity from a man of 62 made but little difference to his comfort and he was able to practise his profession of dental surgeon as before

Romance in Surgery

One of the most romantic stories in surgery is that of Sir John Bland Sutton's[28] abdomino-thoracic operation upon the youth who shot himself because the girl he loved did not requite his love The story ends happily for the girl subsequently married the boy who recovered from a sutured stomach and the loss of his spleen

In civil surgery as in military the circumstances of blood transfusion may be almost as dramatic as the result Some years ago I transfused a naval officer who was bleeding to death from repeated hæmorrhages from a large ulcer at the pyloric end of his stomach the gastroduodenal artery had been eroded by this penetrating ulcer A couple of pints of his fiancée's blood materially aided his recovery from a gastrectomy performed while hæmorrhage was

actually taking place, doubtless the matrimonial fetters were forged the firmer thereby Since the Armistice I have transfused officers who had commanded regiments during the War from men who had served under them The fact that upwards of forty volunteers came forward on one occasion affords eloquent testimony to the popularity of this Commanding Officer We have all transfused wives from husbands, sisters from brothers, fathers and mothers from sons and daughters, and patients in adjacent beds in hospitals have given blood to their neighbours who were in sore need of it Dressers and house surgeons have officially and unofficially helped in such times of need

The arrangements for blood transfusion are now far more satisfactorily organized, and it is possible to make use of the valuable services of the Transfusion Society, or of professional or of high-minded voluntary donors

Surgical Extirpation of Organs and Dramatic Compensations in Nature

The marked improvement in health which is consequent upon the surgical removal of portions of the digestive canal and its associated organs must impress the thoughtful with the wondrous compensatory powers of nature Patients who have been relieved of their gall-bladders for disease are not inconvenienced thereby and live thereafter normal lives

Stomach —In the treatment of chronic gastric ulcer the pendulum tends to swing from the often unsatisfactory indirect attack by gastrojejunostomy towards direct operation upon the ulcer itself, partial gastrectomy is with many the operation of choice in this class of case Here it suffices to say that men and women live happy and healthy

lives without the greater portion of their stomach I have operated on one patient who doubled his weight after the operation and I have knowledge of a lady who actually trebled her weight after gastrectomy

Upon the treatment of chronic duodenal ulceration there is still discrepancy of opinion the most conservative amongst surgeons are even abstentionists save under certain conditions such as stenosis hæmorrhage perforation or the presence of a large ulcer crater demonstrable by radiography

Those who believe in operating for duodenal ulcer only under such complicating conditions hold various opinions as to the nature of the operation which should be performed for this disease This at least is certain the most thorough co-operation of surgeon physician radiologist and laboratory worker is necessary to decide the need of surgery and to determine the appropriate character of the operation to be performed Certain Continental surgeons believe that the best final results are obtained by gastroduodenal resection or where such is impracticable by an exclusion operation in conjunction with the removal of a considerable portion of the stomach to diminish the hyperacidity which is so constantly present in this disease—the so-called resection for exclusion

According to Hans Finsterer[29] Haberer reports only 37 per cent really good results with gastrojejunostomy for duodenal ulcer whereas resection or exclusion gives over 90 per cent final and lasting cures Haberer's gloomy results in gastrojejunostomy are in striking contrast to those proudly published by English workers Nevertheless the tireless search for and trial of new methods of surgery

for this condition bespeak a *lack of unanimity amongst operators that gastrojejunostomy, even with destruction of the duodenal ulcer, is invariably and permanently the successful surgical enterprise* that it is so often reputed to be, and appear to indicate a certain feeling of disappointment and dissatisfaction

Ryle[30] has summed up the indications for the operation thus · "Obvious stenosis, a long history, subnormal tonus, a slowly climbing curve of acidity and slow emptying" Where these findings are absent, but where it is decided that surgery is necessary for chronic ulcer of the duodenum, I find myself travelling in the direction foreshadowed by Bland-Sutton[31] in 1916 and developed and counselled by Finsterer, Clairmont, Haberer, Riedel, and Payr [32]

The employment of regional and splanchnic anæsthesia and the reduction of general narcosis are probably essential in the operation of gastroduodenal resection for gastric or for duodenal ulceration if mortality is to be kept at a minute percentage

Small Intestine —Excisions of small bowel amounting to half its length or even more are quite compatible with good health Smaller resections are tolerated well and make but little difference to the individual economy, in the case of huge resections of bowel, the future welfare of the individual probably depends more upon the amount which remains than upon that which has been sacrificed

Doerfler[33] of Regensburg has recorded the case of a man of 52 who suffered a complete volvulus of the small intestine upon its mesenteric axis, after the removal of the gangrenous bowel and a lateral anastomosis of the

remaining portions of the small intestine the patient was left with only 10 in of jejuno-ileum nevertheless ten years after he was in perfect health At first he had to eat every two hours and his bowel was opened six times a day but in time the stools were passed twice in twenty-four hours and his meals were partaken of in the ordinary manner

In the case of a young man in whom I extirpated a huge mass in the mesentery the operation involved the ablation of almost all his small intestine When the tumour which at the time was regarded as a malignant neoplasm had been removed from the abdomen the patient was found to possess only 18 in of upper jejunum and less than 2 ft of lower ileum the colon had not been interfered with The same clinical picture characterized the early months of his post-operative convalescence as has already been mentioned in connection with Doerfler's case The tumour proved to be not a malignant neoplasm but an actinomycotic mass with a central abscess cavity (*Fig* 13)

Sohn[34] removed 2·75 metres of small intestine * leaving only 1 metre four years after the operation the patient s weight had increased 12 kilos the stools were normal and the man was able to partake of fat food

Stassoff has shown experimentally that in the case of extensive resections of the intestine the stomach endeavours to compensate for the loss by secreting more abundantly and by emptying more slowly

The reserve powers of compensation are naturally more

* The small intestine in this case must have been unusually short but not so short as in my case next recorded

feeble in advancing years, thus in a man of 74 years with a carcinoma of the cæcum, a right-sided colectomy which included the resection of ascending colon, cæcum, and

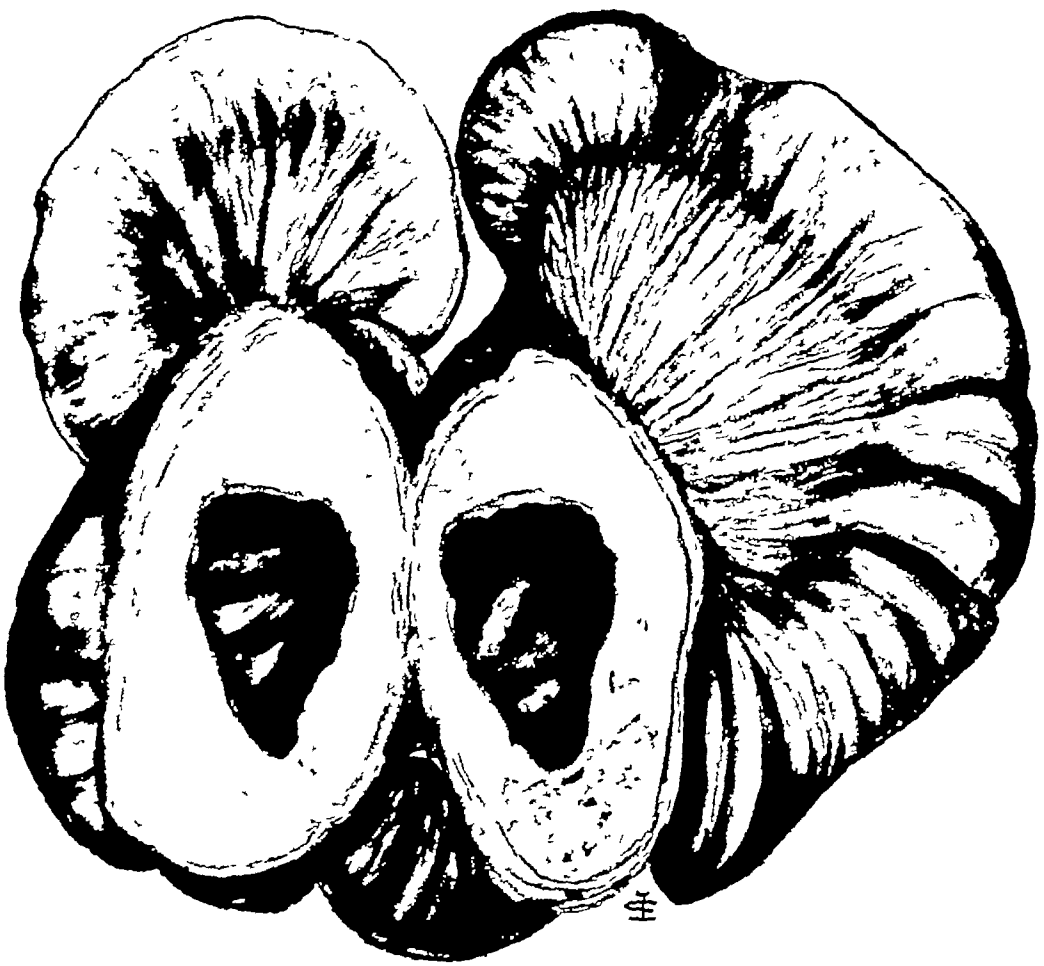


FIG 13.—Actinomycotic abscess of mesentery, recovery after extensive resection of small intestine

nearly 2 ft of terminal ileum proved fatal, the patient dying nearly three weeks after the operation from gradual wasting and dehydration. The amount of ileum which

had to be sacrificed was due to its implication in a right inguinal hernia sac at the autopsy it was discovered that the man must have originally possessed but 6½ ft of small bowel since only 4½ ft now remained The anastomosis between the small bowel and transverse colon was soundly united.

Regions Difficult of Surgical Access

Surgery may be dramatic by reason of an operative attack upon anatomical regions or upon organs which are commonly regarded as surgically inaccessible There is an old adage from Tacitus' *Agricola* which runs 'Omne ignotum pro magnifico est' and although the paucity of surgical ventures and the still greater rarity of successful surgical incursions may at the present time invest with a dramatic splendour such feats as partial hepatectomy for tumours of the liver operations for cancer of the pancreas or for malignant disease of the ampulla of Vater or the successful removal of a cancer of the œsophagus or the cardiac end of the stomach nevertheless advances in our technique may perchance soon reduce these to the rank of the commonplace or haply the discovery of some more certain if less heroic cure of malignant disease may render such dramatic surgery no longer necessary and relegate it to the limbo of the past

Grey Turner's[38] removal of a *hepatoma* which weighed 2 lb 3 oz from a boy of 13 years is to my mind one of the *acta mirabilia* of surgery (*Fig* 14)

The radical treatment of *malignant disease of the pancreas* can hardly be said to exist Lord Moynihan[39] has written thus Records of the cases operated all show

FIG 14.—Grey Turner's case of successful removal of a hepatoma weighing 2 lb 3 oz from boy of 13 years

that the mechanical difficulties are well nigh insuperable and that if boldness and good fortune are the operator's gifts the result to the patient hardly justifies the means Finney [37] however records seventeen cases of extirpation of solid tumours of the pancreas with a mortality rate of just under 50 per cent and Grekoff of Leningrad[38] reports the encouraging case of a woman of 39 years who had a pancreatic tumour whose size approximated to that of an adult fist and which measured 15 cm × 11 cm × 8 cm and weighed 412 grm Five years after the extirpation of the tumour she was in excellent general health but there was present a small tumour of the clavicle this however disappeared with X ray treatment

I have myself removed at least three-quarters of the pancreas for a tumour of similar size to that of Grekoff an operation involving the removal of a longitudinal portion of the splenic vein and a strip of the portal vein both vessels being closed by lateral suture a segment of the splenic artery was included in the mass excised The patient recovered from the operation and is now in excellent health nearly three years after The tumour proved on histological examination to be spheroidal-celled carcinoma apparently of low malignancy (*Fig* 15)

Records of surgical excision of *cancers of the main biliary ducts* are but scanty in number but Fulde of Hanover [39] in a valuable statistical paper was able to collect fifty two cases of this operation Korte s[40] patient in whom he removed a *cancer of the ampulla of Vater* twenty two years before (in 1905) was still alive and in good general health in 1927 Clar of Prague[41] has recorded three other cases of survival of more than five years in

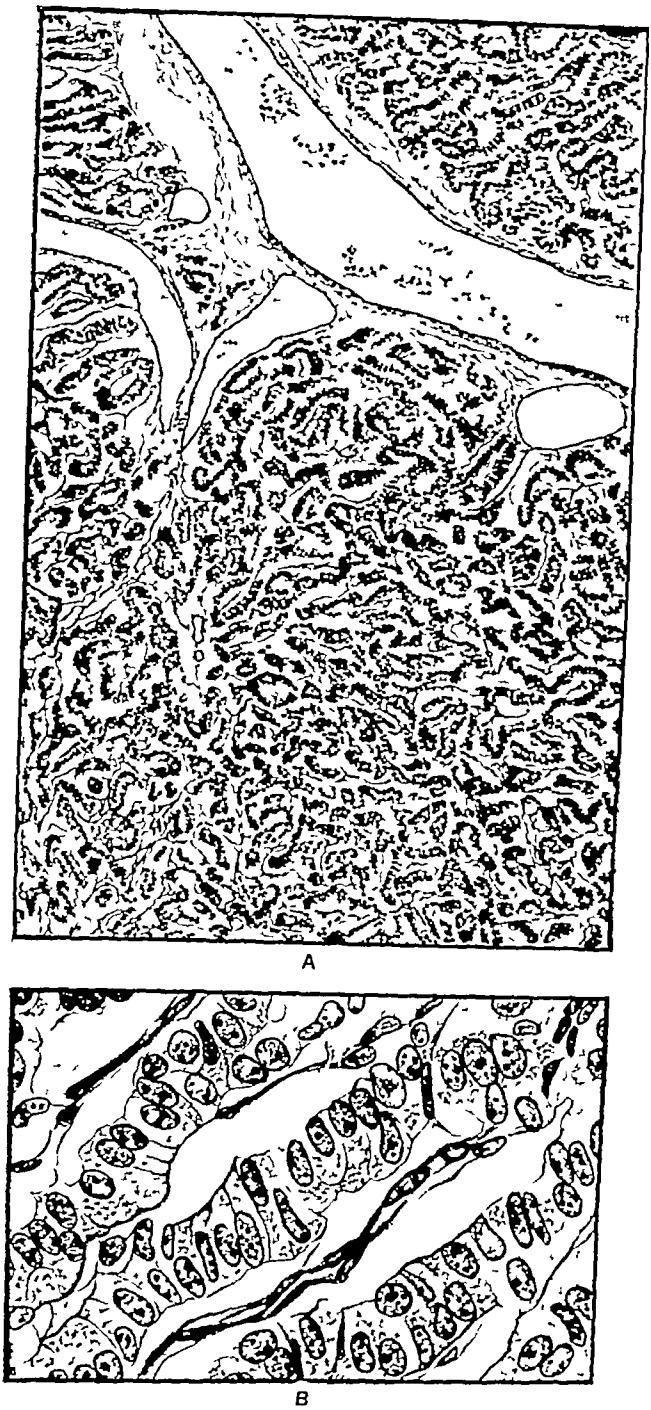


FIG 15.—Low-power (A) and high-power (B) drawings of spheroidal celled carcinoma of body of pancreas, successfully removed, September, 1927. Patient in excellent health two and a half years later

patients in whom a Vaterian cancer had been successfully extirpated thus Lewis's case had survived 8½ years Oehler s case 6 years and Schloffer s patient over 5 years

In almost all the cases where a Vaterian cancer has been ablated a single-stage operation has been practised by the transduodenal route

The extirpation of a *cancer of the thoracic œsophagus* has proved an almost impossible surgical task and there appear to have been but three successes claimed by Torek Eggers and Lilienthal the patient of the last named surgeon moreover survived but a few months Torek s case of œsophagectomy which was followed by a prolongation of life for many years is to my mind one of the great and dramatic achievements of surgery

Only slightly better fortune has attended the efforts of surgeons to remove *the cardia* for cancer of this segment of the digestive tract Ten cases[42] have indeed survived operation and it would appear that the chances of success are greater if the transabdominal mode of approach be followed although Zauger of Leyden and Hedblom of the Mayo Clinic have obtained a happy result by the pleuro-abdominal route To Voelcker Kümmell Peugniez Clairmont Brun Kuttner Bircher and Miyaga belongs also the glory of having each saved one such case

The *surgery of the heart* is naturally invested with a dramatic splendour by reason of the heart s function Sir George Makins [43] Sir John Bland Sutton [44] Sir Charles Ballance [45] and many French surgeons have made notable contributions to its literature Imagine the thrill experienced by a surgeon who successfully extracts a projectile from the interior of one of the cavities of the heart ! In the

War the French surgeons appear to have been particularly successful at this branch of surgery, but the difficulties to be overcome in the successful removal of missiles from

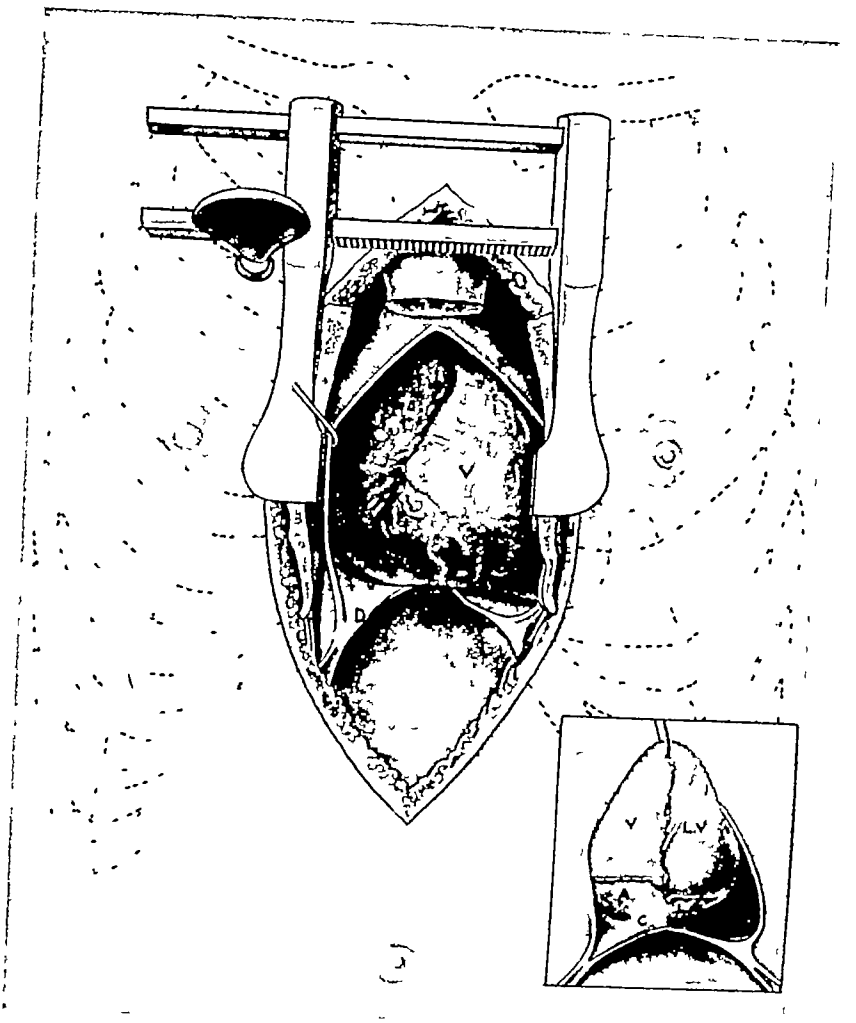


FIG 16.—Median thoraco-laparotomy of Duval and Barasty

the heart cavities or heart wall are as nothing when compared with the dramatic removal of a rifle bullet by Pierre Duval[46] from the intrapericardiac portion of the

inferior vena cava—perhaps the most brilliant operation in the history of surgery

The operation done in the 31st October at Beauvais six days after the patient had been wounded was described by Duval and Barnsby in June 1918 the missile had entered by the left lung had penetrated the left ventricle the interventricular septum and had passed by the right auriculoventricular orifice and right auricle into the inferior vena cava The method of approach was the median thoraco-laparotomy associated with the name of Duval (*Fig* 16) a graphic description was given to the Surgical Society of Paris of the steps of the operation before the bullet was finally seized and extracted In his account Duval mentions the curious sensation of feeling the bullet in mid stream in the vena cava slipping between and past his fingers four times and even when at length he did manage to seize it it again escaped twice from his grasp It was finally caught at the junction of auricle and vena cava and by this time it had turned completely upon itself so that now it had its point directed upwards into the auricle and its base downwards in the cava (*Fig* 17) A purse-string was inserted an incision made in the vein the bullet extracted and the thread drawn tight— un petit jet de sang au niveau d un des points

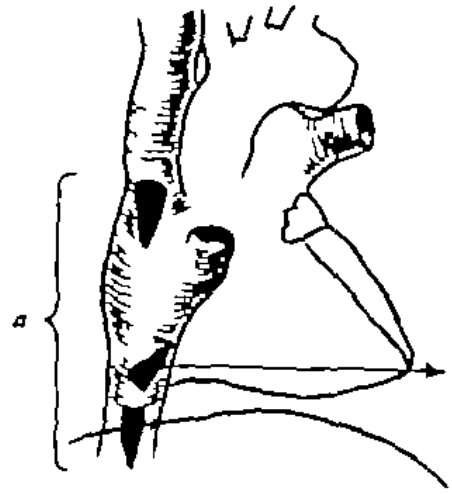


FIG 17.—Diagram illustrating the range of excursion (a) of the bullet before operation and the position of the missile (indicated by arrow) at the actual moment of extraction (base down, apex up)

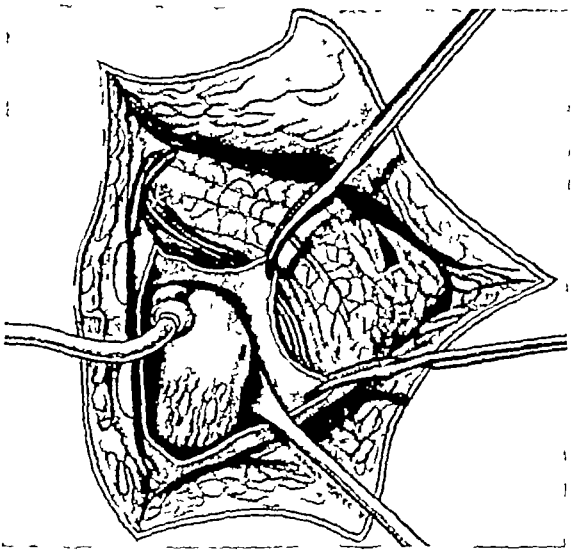


FIG 18 —Operation for pulmonary embolism, Stage 1

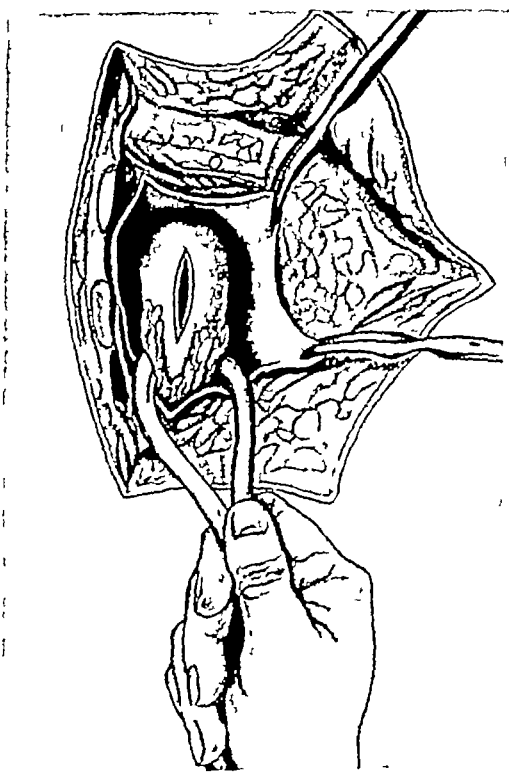


FIG 19 —Operation for pulmonary embolism, Stage 2

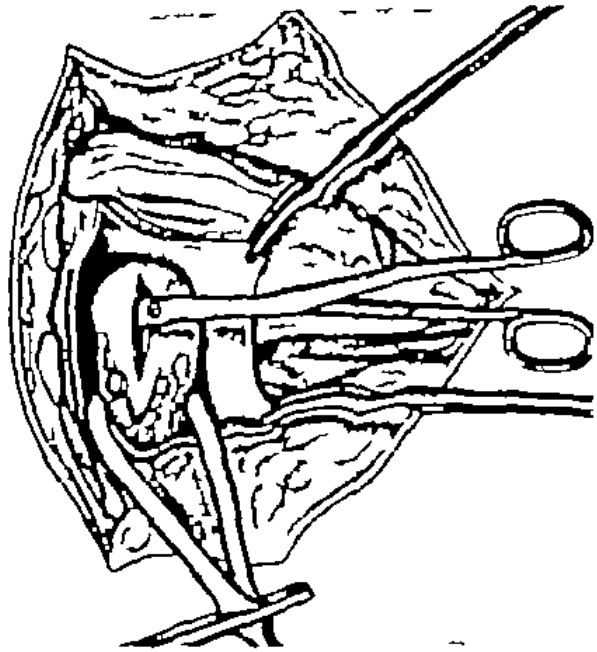


FIG. 20.—Operation for pulmonary embolism, Stage 3

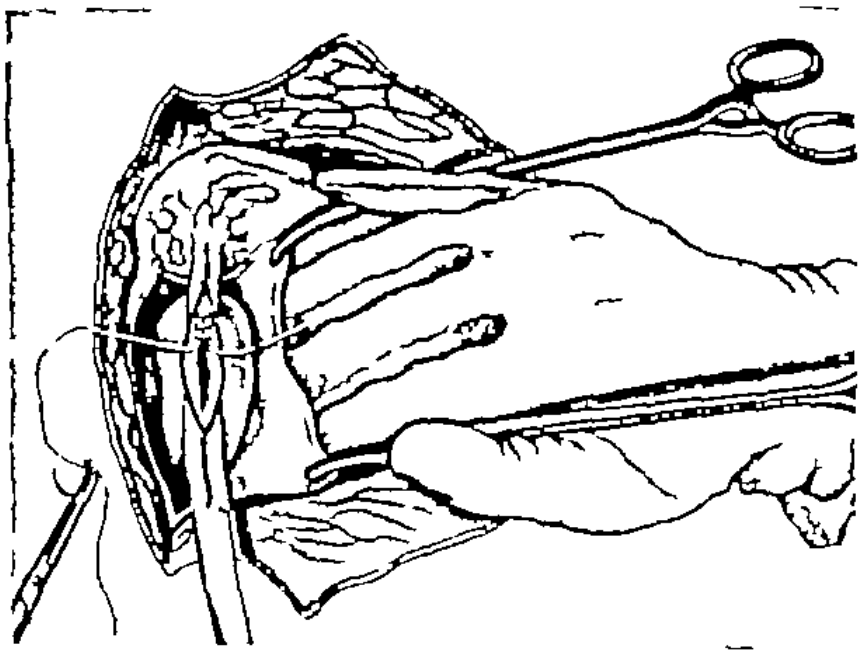


FIG 21 —Operation for pulmonary embolism Stage 4.

Figs 18–21 after A W Meyer (*Deut Zeits f Chir* 205 Leipzig F C W Vogel)

une pince, une ligature latérale La suture est parfaitement étanche "

The *surgery of pulmonary embolism*[47] falls but little short of Duval's brilliant operation in its dramatic character

It was in 1907 that Trendelenburg made his historical attempt in a woman of 70 years to extract a pulmonary embolus which threatened her life, the enterprise nearly succeeded, but the woman died from a secondary hæmorrhage from the internal mammary artery Nevertheless, as the result of successful experimental surgery in calves, he and his assistants, Lawen and Sievers, had in 1908 the confidence and optimism to insist and prophesy that the operation could and would succeed in the human being From 1908 till 1924 many essayed, but no one triumphed Kruger's case did live five and a half days, but died of a purulent pleurisy

To Kirschner of Konigsberg,* in 1924, belongs the credit of the first success Meyer of Charlottenburg-Westende has now saved three such cases, Clarence Crafoord in the Clinic of Giertz at the Sabbatsberg Hospital, Stockholm, has rescued two, as has also Nystrom of Upsala The courage and the optimism of these men have now on eight occasions brought within the realm of successful surgery that which had been regarded as a mortal mishap (*Figs* 18–21)

The dramatic nature of such an operation may be gauged in the words of Crafoord,[48] who says "Do not be discouraged that in the course of the operation the patient appears to be dead Experiments on animals show

* Now of Tübingen

FIG 22.—Tudor Edwards case. Skiagram illustrating a myeloma of the upper lobe of the left lung

FIG. 23.—Tudor Edwards' case. Skiagram showing the tumour after induction of artificial pneumothorax (erect posture). Note the displacement of tumour downwards by its weight.

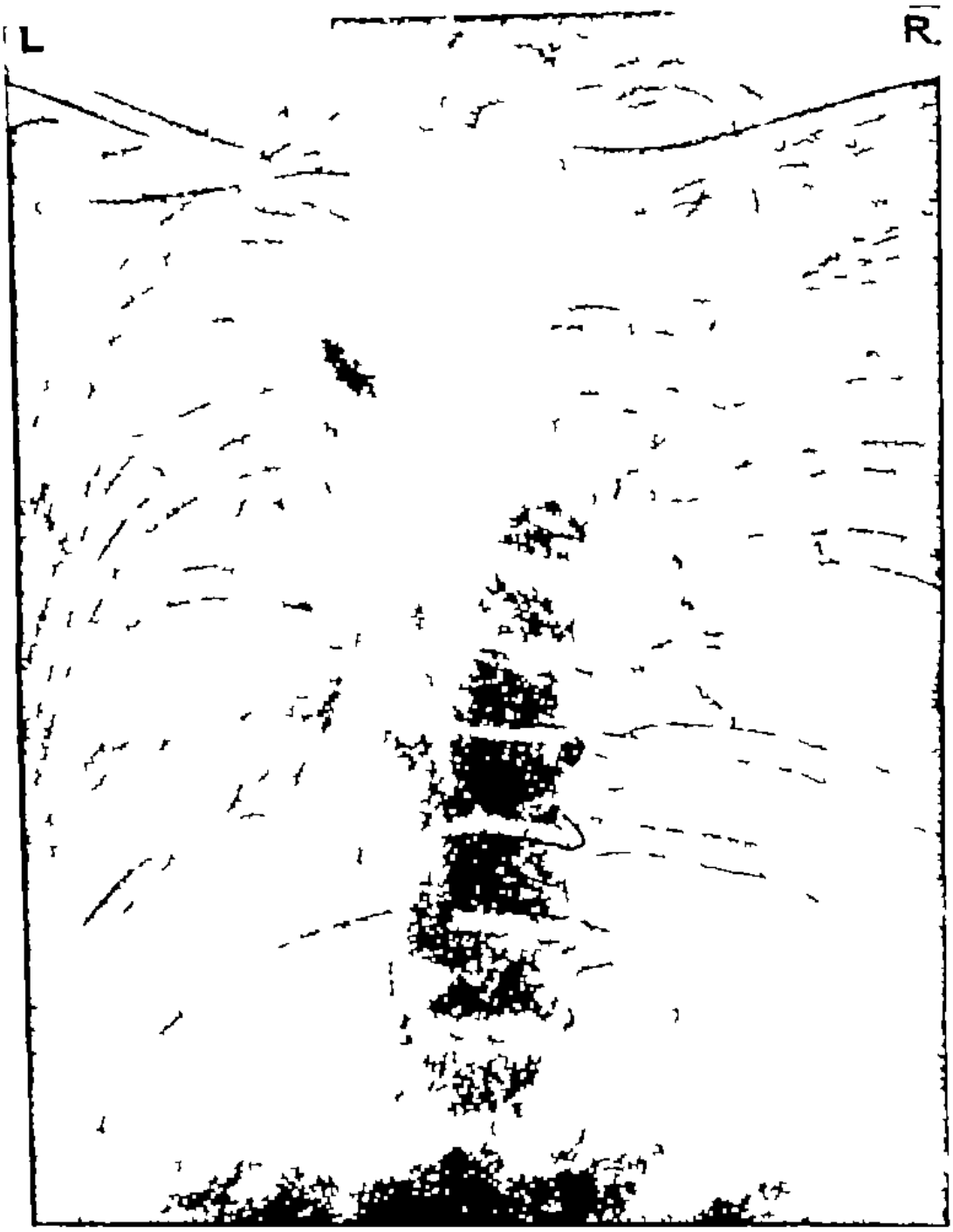


FIG. 24.—Tudor Edwards case of myeloma of the upper lobe of the left lung after operation.

Figs 22–24 by courtesy of the Medical Society of London

that cardiac as well as respiratory activity can again be resumed, even after cessation for three or four minutes" In one of Crafoord's successful cases, the only sign of maintained life at the time of the operation was a fluttering movement in the veins of the neck!

The brilliant case of *resection of half the upper lobe of the left lung* for a secondary deposit of myeloma, originally in the upper end of the fibula, which was shown by Tudor Edwards[49] eighteen months after the operation, is one of the most dramatic ever shown at a clinical evening, and well deserved the epithet 'superb' which was applied to it by those present (*Figs.* 22–24)

The Surgery of Aneurysm

The clinical course and termination of an aneurysm may be no less dramatic than its treatment It is said of Syme that "pressure forceps being then unknown, he was accustomed to lay open the sac, insert his hand, stop the bleeding from within, and press a ligature around the artery, above and below"[50] Surgical technique has improved almost out of all knowledge since the middle of the nineteenth century, the period at which Syme was especially interesting himself in the treatment of aneurysm Mechanical contrivances, simple and complicated, are now available for securing absolute control of the vessel, no matter what its position may be Matas can now write "In every case, a rule which knows no exception, *no* open or radical operation on an aneurysm should be attempted without an absolute control of both its poles, or, in the case of arteriovenous aneurysm, of both the parent trunks on each side of the lesion and as close to it as possible"[51]

If perchance the circumstances of the operation or the situation of the aneurysm should prevent proper provision for prophylactic hæmostasis the risk from desperate hæmorrhage renders the operation one of the most formidable in the whole of surgery Many years ago I witnessed such an operation performed by a most skilful and dexterous surgeon for an aneurysm of the first part of the axillary artery which had complicated a concomitant fracture of the humerus the undertaking was unsuccessful and the patient died in a few seconds on the operating table from loss of blood

I have on one occasion been compelled myself to make use of this so-called old operation so closely associated with Syme Annandale and the great Scottish surgeons of the past an extensive fusiform aneurysm of the right subclavian and axillary arteries which involved the second and third portions of the first named and at least the first and second segments of the latter was treated by proximal ligature of the first part of the subclavian Care was taken to apply the ligature at the mesial border of the scalenus anticus on the distal side of the vessels coming off the first part of the arterial trunk a stay knot of stout thirty-day chromic catgut was employed A distal ligature was also applied to the axillary artery Certain circumstances connected with the operation which had proved long and difficult by reason of the size of the aneurysm prevented me from excising the sac or performing an obliterative aneurysmorrhaphy as well All went smoothly for ten days and then pulsation reappeared in the sac which rapidly increased in size and the pulsation became daily more forcible It became imperative to intervene again

The obscuration of anatomical landmarks by scar tissue, even when the inner end of the clavicle had been resected, and difficulty in identifying the structures on the proximal side of the tumour, coerced me to cut into the sac and plug the artery with my finger The incision was straightway followed by an overwhelming torrent, with my index finger still obturating the lumen of the artery the sac was cleared of clot, and the vessel again ligated with much difficulty after section of the scalenus anticus, the phrenic nerve had to be sacrificed The internal jugular had been divided at the previous operation and caused no trouble No sign of the previous ligature on the subclavian could be discovered, and it was evident that the artery was no longer occluded, the ligature had been absorbed completely! The sac was now obliterated, and the patient, after transfusion, was returned to bed The arm and hand remained warm and had an excellent colour, but the man, who was of a somewhat plethoric appearance, unhappily developed pneumonia, of which he died four days after the operation

The Dramatic in Treatment

The *age* sometimes lends a dramatic interest to surgery The operation of Rammstedt performed in earliest infancy has almost ceased to excite interest, familiarity with the success of the operation has reduced it almost to the commonplace Operations undertaken at the other extreme of life are seldom attended with the same good fortune The successful operation performed upon a woman of 107 years with a strangulated femoral hernia must surely be the record in this direction, and fittingly

it is transatlantic in its setting General anæsthesia was employed and the operation took half an hour the woman was alive a year after and there was no sign of recurrence

I have myself successfully resected a carcinoma of the transverse colon in a gentleman of 85 years who more than two years after is alive and well and I have anastomosed the ileum to the pelvic portion of the rectum for a large obstructing carcinoma of the sigmoid in a nonagenarian who survived the operation two years and who finally died of uræmia

Certain forms of *surgical treatment* may have a dramatic character either in *their conception* or in the *results which they produce* Thus the removal of one suprarenal has been practised by several operators for the cure of epilepsy for high blood pressure and for certain forms of arterial disease the left organ is that which is usually ablated and the surgical approach has varied between the transperitoneal route of Delbet and Brunning and the extraperitoneal method of Leriche of Strasburg and Willems of Liège It would be premature to formulate a definite decision upon the results of this surgery

It seems a far cry from the eye to the appendix but it has been definitely established that certain forms of inflammation of the uveal tract originate in some more or less remote septic focus in the body cure has rapidly followed the extraction of a dead tooth the correction of nasal sepsis the removal of an appendix or the treatment of a genito-urinary infection [52]

The dramatic effects resulting from treatment may be observed in the wondrous results of blood transfusion a form of therapy whose popularity in this country dates

from the War, in the remarkable effects of salvarsan in syphilis, of liver in Addisonian anæmia, of insulin in diabetes, and of X-ray and radium treatment of certain forms and in certain phases of malignant disease One of the most dramatic and convincing clinical demonstrations of the efficacy of the treatment of cancer of the mouth by means of radium was that given to the 'Pilgrim Surgeons' by Birkett of Manchester,[53] who showed some forty cases of apparent cure

Occasionally periarterial sympathectomy has produced dramatic results in threatened gangrene and in perforating ulcers of the foot, and reanimation of the apparently dead may be dramatically effected on occasion by the method of Sylvester or by the intratracheal tube, by blood transfusion, by massage of the heart, or by the injection of adrenalin [54] The reanimation of a heart which has ceased to beat, and the revival of life apparently extinct, naturally approximate to the miraculous I have seen the heart re-stimulated by blood transfusion which reached the exsanguinated recipient almost too late, but the cardiac reanimation by means of adrenalin injection into the organ is perhaps a more dramatic and may be a more accessible remedy in case of threatened disaster.

Plastic Surgery

No department of surgery is fraught with such wondrous powers for miraculous transformation as is that of the plastic operator, the term 'dramatic' is hardly applicable to this branch of surgery, for the change is not one that is rapidly and vividly effected, but in most cases the finished picture of the surgeon's skill is the result of lengthy and

painstaking effort and artistry Those who practise re constructive surgery have been happily designated the menders of the maimed but of no group of military sur geons can it be more justly said than of plastic surgeons de republica bene merebantur Of those who have endeavoured to remove facial deformity and disfigurement amongst the wounded and mutilated the names of Gillies Cole Chubb Newton Pickerill Shaw Moure Morestin and Lenormant deserve special mention

But plastic surgery does not merely confine its sphere to facial reconstruction the substitution of the new for the old the replacement of that which has been lost by wear and tear or by injury is a phenomenon as necessary in the living as in the material world it may be effected by autoplasty or homoplasty more rarely heteroplastic methods are utilized

A new œsophagus has been formed afresh from flaps of skin from the stomach itself the transverse colon or the small intestine a new vagina has been fashioned by the Baldwin Mori technique from small intestine or by the Schubert method from the rectum defects of the urethra have been replaced by autoplastic transplantation of skin and even by bullock s urethra It is probably the best surgery to divert the urinary stream into the bowel by axial implantation of each ureter on separate occasions in the case of ectopia vesicæ and epispadias and in other conditions where the sacrifice of the bladder for disease is under contemplation. Nevertheless through the courtesy of Professor Noordenbos of Amsterdam I saw a woman whom he had operated upon two years previously and removed her uterus and bladder for cancer and brought

FIG 25.—Total cystectomy and prostatectomy from a patient, male, age 60 carcinoma of bladder and prostatic calculi, ureters implanted on the skin of abdomen Recovery

the two ureters up to the skin of the iliac regions a suitable apparatus promoted her personal comfort This case induced me to deal with the ureters in this manner in a case of an extensive growth of the bladder in which I successfully performed a total cystectomy and prostatectomy (*Fig* 25)

Kineplastic amputations have proved of use in the upper extremity and the resources of the plastic surgeon have at times been invoked to cover extensive loss of skin in various parts of the body by the so-called process of caterpillar grafting skin can be transplanted to the uttermost parts of the body one woman was remarkable for the navel which she wore upon her knee a bizarre identity disc for all time and one more unique than the absence of the umbilicus in our Biblical forebears Adam and Eve

The removal of a breast is keenly felt by the majority of women as a peculiar indignity but the riddance of a colossal and ponderous mammary organ single or bilateral cannot fail to be regarded by them as other than a measure of relief These enormous breasts may be occupied by soft fibro-adenomata which grow rapidly and may attain a weight of 6½ lb or more (*Fig* 26) others are cases of diffuse hypertrophy and have attained a combined weight of even 30 lb (*Fig* 27) Apart from the gross inconvenience which these huge breasts occasion their removal is desirable because of the risk of the supervention of malignant disease a complication of which I have personal knowledge

But there are some women who must slavishly follow fashion in figure as well as in dress these have at times subjected their abdominal wall and both their breasts to

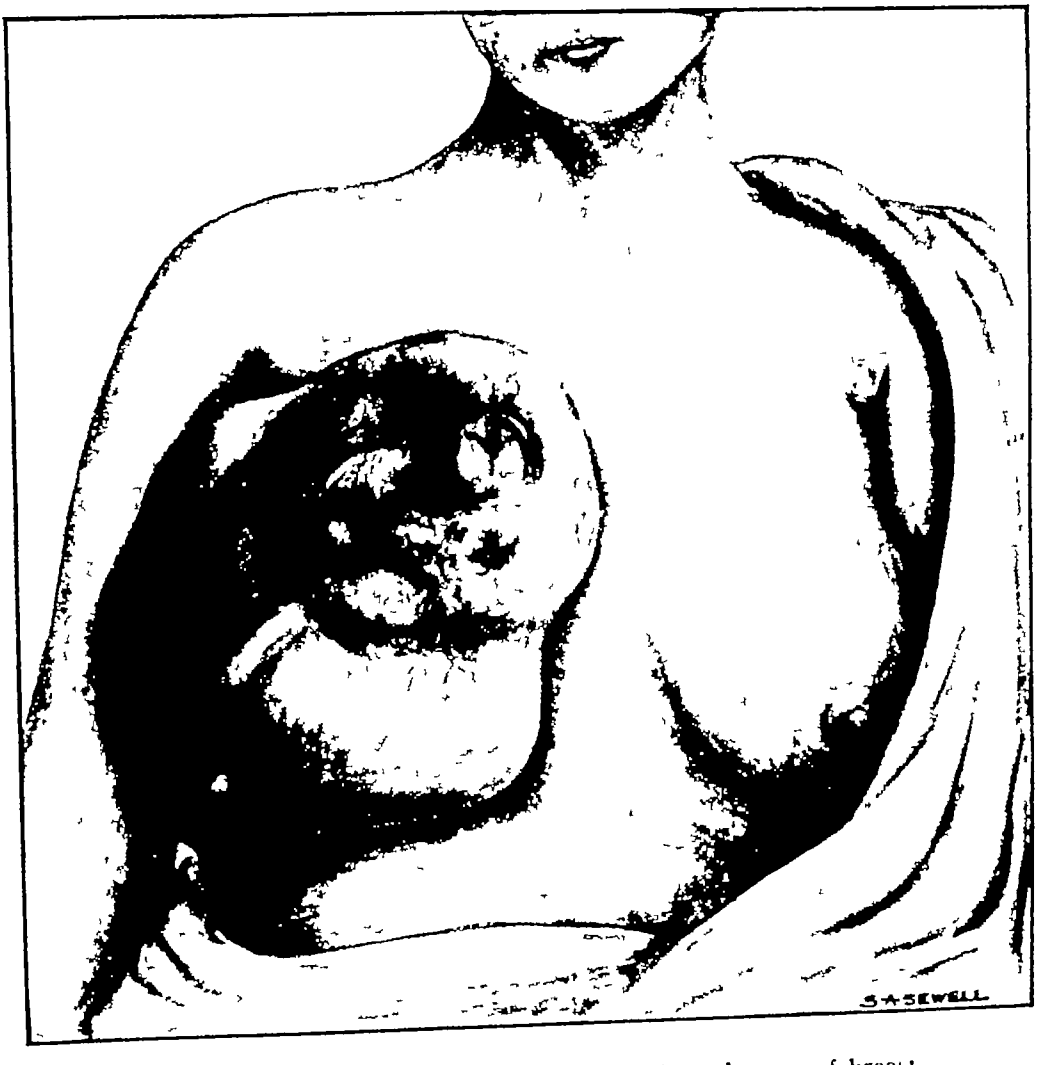


FIG. 26.—Case of soft rapidly growing cystic fibro adenoma of breast

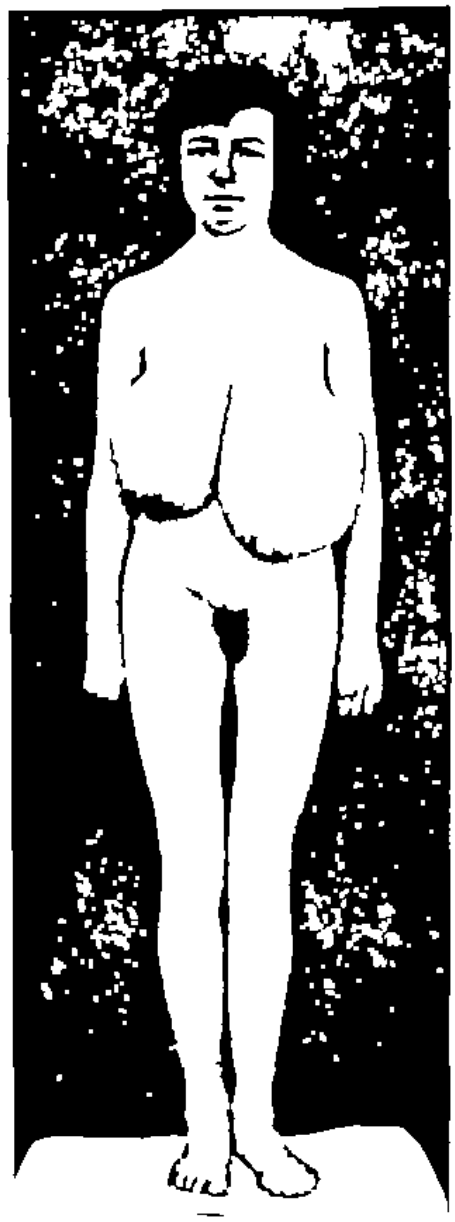


FIG. 27.—Bilateral hypertrophy of breasts in girl of 15 years.

FIG. 28.—Hypertrophy of breast: immense areola. Note the outline of the incision for the reception of the transplanted reduced areola and nipple: the upper and anterior portion of the incision for the removal of the mammæ has been traced.

FIG. 29.—Same case as Fig. 28, the areola and nipple have been separated.

FIGS. 28–33 after M. Dartigues, by courtesy of the 'Bulletin et Mémoires de la Société de Chirurgie'.

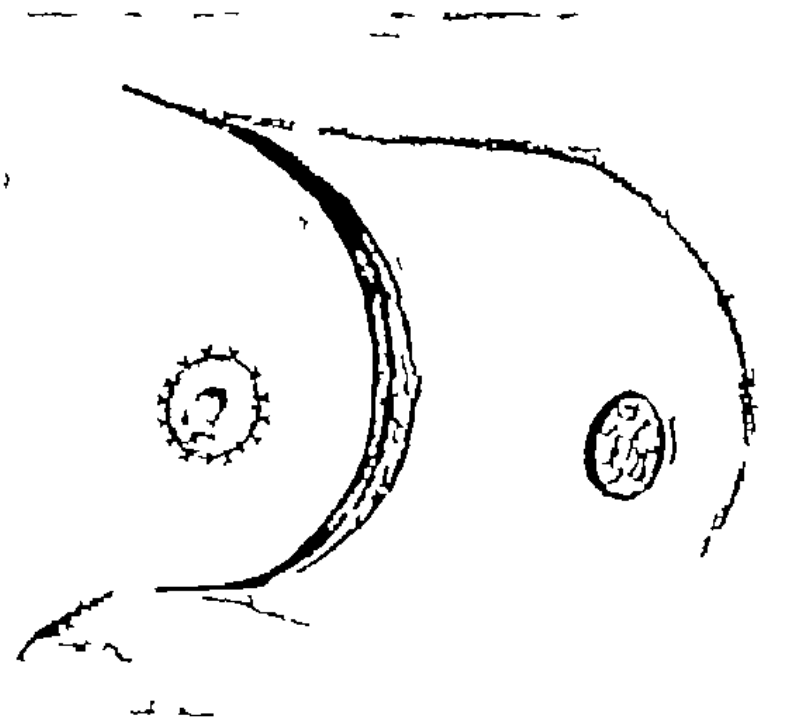


Fig. 31.—Upper flap dissected up areola graft already transplanted.

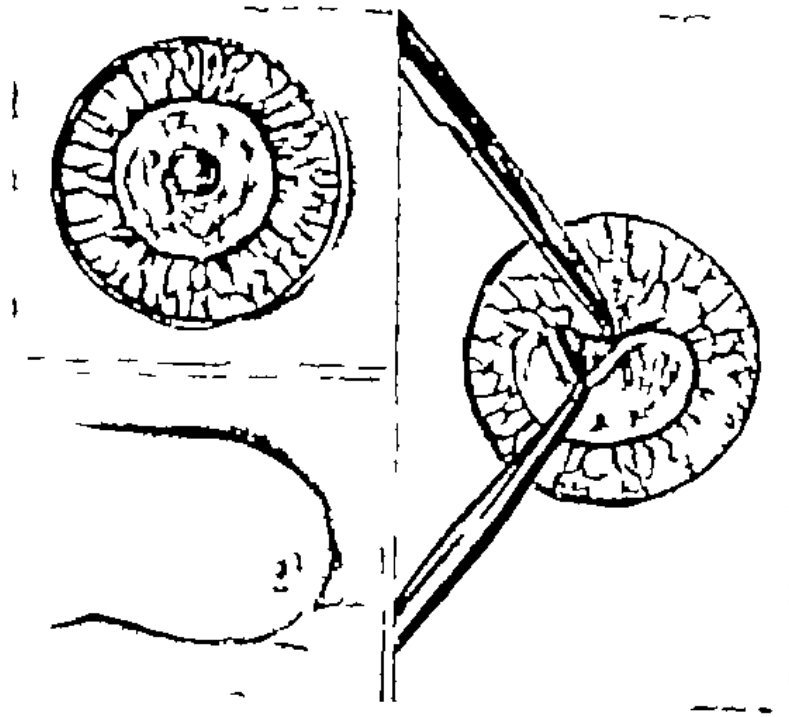


Fig. 30.—Dissection of graft.

FIG. 33.—Operation nearing completion: suture of the two flaps, the nipple and reduced areola have been grafted into their new bed

FIG. 32.—The massive breast is forcibly raised, and the inferior portion of the incision for the removal of the mamma is mapped out

the knife of the cosmetic surgeon such removals are more suggestive of uncivilized atrocities and are hardly worthy of the name of surgery Others still retaining a spark of femininity suffer plastic operations to raise their drooping bust Kraske describes an operation of this type which he ascribes to Lexer This type of surgery suggests however a Gallic rather than a Teutonic source and the accompanying excellent figures illustrating ' mammectomie bilatérale esthétique are from Dartigues paper before the Surgical Society of Paris[55] (*Figs* 28–33) It is a thousand pities that he should employ such a hideous hybrid term for his beautiful cosmetic operation

Hypodermic medication is now so fashionable that others dissatisfied with the appearance of this part of their figure have had recourse to paraffin injections into their breasts and I have been consulted by one patient who in her professional days on the stage had subjected herself to this form of treatment but who now desired information as to the fate of the paraffinoma in the event of pregnancy following her recent marriage

Calculus Surgery

The successful extraction of a stone by surgical means from any organ or channel of the body must at all times be a somewhat dramatic event and the source of extreme satisfaction to the patient Middlesex Hospital has been somewhat closely associated with the history of calculus surgery Pearce Gould[56] in 1890 was the first operator to remove a stone from the pancreas* John Murray[57] in

* Lord Moynihan operating transduodenally obtained the first success in May 1902

1912, employing "the posterior route of access to the stone", was the second operator to secure success by this particular method, in 1891 Bland-Sutton[58] performed the second successful choledochotomy in this country, and extracted four gall-stones from the supraduodenal portion of the common bile-duct It was in October, 1880, that Henry Morris[59] performed the first nephrolithotomy, and extracted from the undistended, and to the naked eye quite normal, kidney of a young woman, a mulberry calculus weighing 31 gr

The diagnosis and treatment of calculi have advanced since then, radiography, cholecystography, and pyelography, and even pyeloscopy, have made for accuracy in pre-operative diagnosis By these means abnormalities of the kidney and gall-bladder in respect of anatomical position are known with exactitude, and any derangements of function are ascertained by the careful before surgery is embarked upon

The perfecting of the cystoscope and its accessories has led to a change of attitude in respect of the surgical treatment of stones in the lower end of the ureter Where calculi are less than the size of a pip, surgeons first make use of endoscopic measures and endeavour to coax stones from their lair by injections of olive oil or liquid paraffin, or with more subtlety by means of papaverine sulphate combined with either of these aforesaid lubricants Such methods are first resorted to before invoking the aid of an incision in the parietes, and are often more fruitful in their results I can recollect the thrill I experienced many years ago when for the first time I enlarged the ureteric meatus with cystoscopic scissors, and beheld the calculus,

which I had watched with X rays for some months, extruded into the bladder No less satisfactory was the division with cystoscopic shears of a silk suture on which a small calculus was suspended to the bladder wall the aftermath of a pelvic operation performed upon a lady by an obstetric surgeon

What can be more entertaining than the whole history of the surgery of stone in the bladder? Dramatic were the achievements of Frère Jacques who started life as the servant of a quack named Paulon and who travelled about France with him acting as his assistant and helping him with his operations on those suffering with stone Frère Jacques reached his zenith in the very end of the seventeenth century and first decade of the eighteenth and it is stated that on one occasion he successfully cut *nine patients for bladder stone in three-quarters of an hour*

The more spectacular operation for lithotomy is now replaced where possible by litholopaxy the crushed fragments of stone do not probably constitute in the patient s eyes at any rate so eloquent a record of the pain and discomfort endured as when the stone is removed entire by the cutting operation

The Dramatic in Disease

Apart from the dramatic result of treatment in disease disease itself may be dramatic in *its origin and clinical course*

The subject of conjoined twins is one of the most dramatic and arresting studies for the surgeon as well as the embryologist the subject of the psychology of these unfortunate beings is discussed by Sir John Bland Sutton

in his own inimitable way in his address to the Leeds University Medical Society [60]

The following dramatic clinical coincidence is worthy of record here Burkhard of Munich[61] reports the simultaneous appearance of two tumours of the same nature in the same quadrant of the left breasts of two twin sisters The girls were 21 years of age, and in each the tumour was in the supero-internal portion of the mamma, the site, volume, and the approximate date of appearance were identical These twins were probably the result of a univitelline twin pregnancy, and it is difficult to attribute the pathological problem to mere chance—there must be a common congenital origin

More tragic is the story of two elderly twin ladies of 75 years, related to me by Dr Hewer of Hampstead Each had a carcinoma of the upper and inner quadrant of the right breast, they died within two months of each other, the longer-lived one also developing a carcinoma of the left mamma before she succumbed to her malady

I have referred to the dramatic results of gamma-ray therapy in certain forms of malignant disease, but what can be more dramatic than the course of cancer in certain cases *untreated by any therapeutic measures at all*? Pearce Gould, in his Bradshaw Lecture for 1910, quotes several dramatic cases illustrative of cancer immunity, and writes as follows "In human pathology the disappearance of cancerous growth is undoubtedly observed It is most often seen in the gradual absorption and disappearance of small secondary nodules in the skin and subcutaneous tissue It is occasionally witnessed on a grander scale

Many years ago I showed a patient at meetings of the Clinical Society of London who recovered spontaneously and completely when she seemed to be at death's door from cancerous deposits in the lung and the neck of the femur secondary to cancer of the breast She remained well for several years '[62]

An equally satisfactory and striking case is also recorded by him A woman aged 52 was admitted to one of the inoperable cancer wards of the Middlesex Hospital on February 28 1906 suffering from advanced cancer of the uterus that organ was fixed in the pelvis the cervix was ulcerated and masses of growth were felt invading the anterior wall of the rectum she suffered from constant discharge and irregular hæmorrhages The following note was made in July 1909 Uterus is small senile vagina narrowed at its upper end vaginal cervix very small no ulceration or growth to be felt in cervix or vagina uterus is mobile The original disease has entirely disappeared After keeping her for several months to make sure of her recovery she was discharged from our Cancer Charity as she no longer filled the necessary condition of suffering from cancer and she now earns her living by needlework No treatment specially directed to the cure of the disease was employed in this case.

Weird and *wonderful agencies* may *occasion disease* liver flukes and ascarides may obturate the bile-duct or pancreatic duct worms may block the appendix and more rarely the intestine Extraordinary foreign bodies have been found and extracted from every natural orifice of the body and disgusting and perchance fatal complications may beset the course of disease What could be

more loathsome than a gastro-colic fistula in cancer, or a gastro-jejuno-colic fistula following unfortunate surgery for peptic ulceration? If a hæmorrhage from some ulcer of the digestive canal should still further complicate the clinical course of this ghastly morbid communication, a bloody flux composed of diarrhœa and putrid melæna pouring through an artificial anus into the stomach will rapidly bring the victim's suffering to an end *It is better to have an artificial anus on the skin of the abdomen than one which opens on the mucous lining of the stomach*

Terminology

Many terms in common everyday surgical usage are arresting in their phraseology and in their connotation Lord Moynihan has, indeed, familiarized us with the 'pathology of the living', we are now acquainted with the 'surgery of access', the 'radium barrage', and the 'splanchnic block', we 'decompress the kidneys' and we 'strafe' the papilloma of the bladder The laity as well as the profession know the 'alkaline treatment of ulcer', its amazing and never-failing efficacy has been vaunted even in the daily Press, but the 'alkaline treatment' of a gastric cancer implies carelessness, neglect, and failure in duty on the part of the physician in attendance, yet the results of this form of treatment are only too well known to surgeons, to whom the sufferers so often appeal too late, when valuable time has been wasted It behoves those who advocate the 'alkaline treatment' of peptic ulcer to assure themselves by every clinical, radiological, and biochemical test that the disease in question is in very deed an ulcer and not a malignant growth *Figs* 34-36

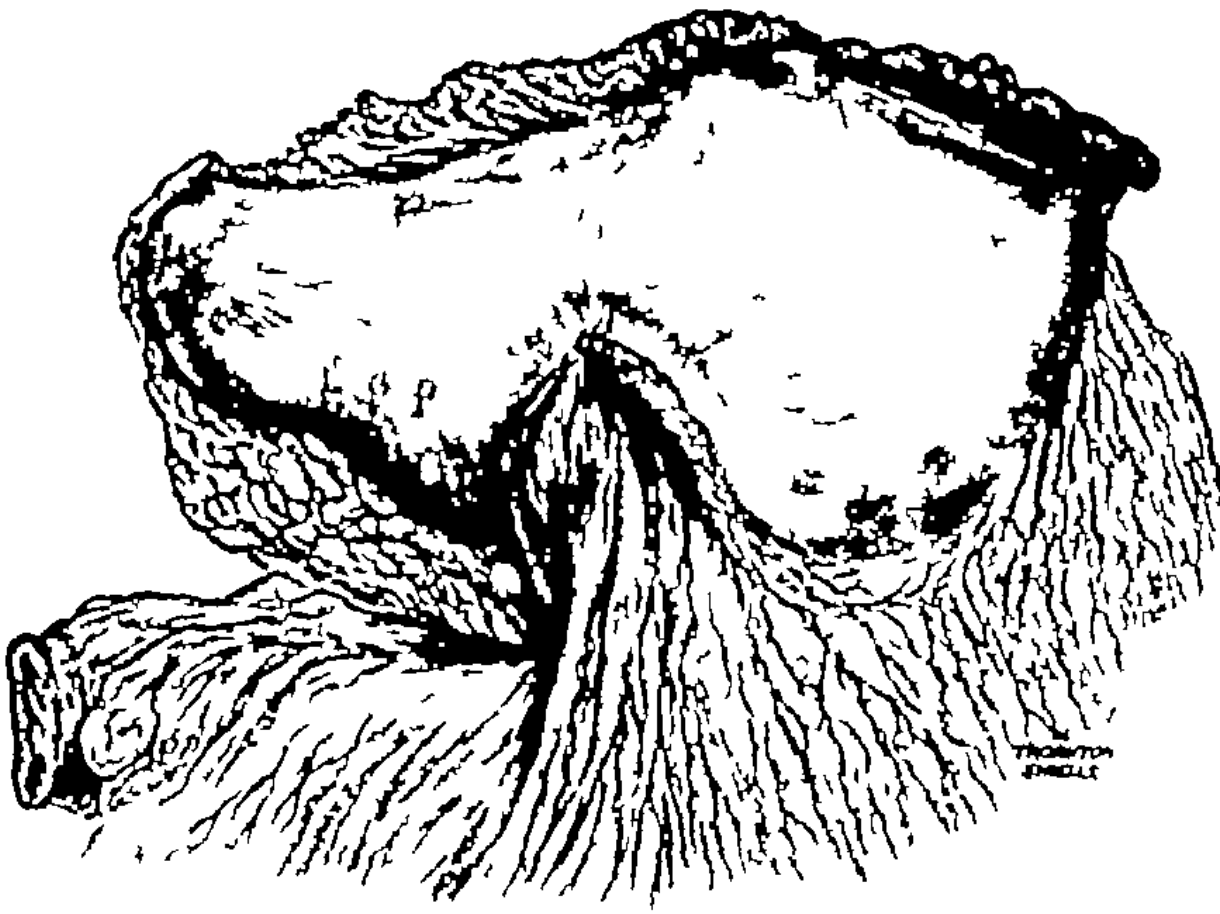


FIG. 34.—Specimen of carcinoma of stomach involving the transverse colon and omentum. Illustrating the result of the alkaline treatment of gastric cancer. Mass successfully removed. Patient well over a year later.

FIG 36.—The result of the alkaline treatment of gastric cancer Total gastrectomy and excision of colon found necessary Anastomosis of œsophagus to jejunum. Death.

illustrate three results of the 'alkaline treatment' of gastric cancer One case necessitated a resection of stomach and transverse colon The second had a pyloric stenosis with eight hours' food retention, and, despite the possession of this radiological information, had been treated by means of alkali with very great optimism but little clinical sense for no less a period than six months, a preliminary gastrojejunostomy followed by a gastrectomy has enabled me to prolong her life

Ectopic and Rudimentary Organs

It is almost an article of pathological faith that *misplaced or rudimentary organs* are more liable to malignant change than those which are normal, but it is also well known to all who practise surgery with what dramatic swiftness Nature may attack these immature or ectopic structures, and in what brief space of time their vitality may be destroyed and even the life of the individual jeopardized, unless the damaged or devitalized organ is extirpated by timely surgery

A congenital hydronephrosis or hydro-ureter is more liable to secondary changes than is the kidney of the opposite side In the case of the male genital gland, *malposition and imperfection* are admittedly closely related phenomena, torsion may exterminate that which is immature or misplaced It is still a matter of statistical dispute whether the retained testicle is more liable to malignant growth than that which is normally descended, my own personal experience is strongly in favour of the view that the menace of malignancy threatens the misplaced organ and also the individual who is unfortunate

enough to possess one Malignant disease of the testicle may occur in the inguinal canal and in the abdomen and it may either attack the gland which has been replaced in the abdomen by orchidocleisis or which has been brought down by surgery into the scrotum Coley [62] Cunningham [63] and I[63] have recorded cases of this latter catastrophe I have also recorded it in a patient who had been submitted to orchidocleisis amongst others Romiti has also described the development of a seminoma after a similar surgical undertaking

Malignant disease of the testicle which has remained in the abdomen may simulate an appendix abscess and I have notes of a soldier who had been sent down from the fire trench with the latter diagnosis better had it been to meet sudden death by gunshot wound than to perish more slowly from this inexorable malady

I have known the diagnosis in doubt in the case of a malignant growth of an abdominal testicle which became so *firmly impacted in the pelvis* as to cause a dysuria in much the same manner as an impacted fibromyoma of the uterus may cause a similar train of symptoms in the female (*Fig* 37)

Complete *transposition of viscera* is always a dramatic phenomenon liable to obscure diagnosis and confuse the unwary *Lesser degrees of ectopy* congenital or acquired may nevertheless possess a very considerable surgical interest and importance What can be more dramatic than the discovery of the abdominal viscera in the cavity of the thorax ? Experience in the treatment of the abdomino thoracic wounds of warfare taught surgeons that the best method of approach in dealing with diaphragmatic hernia

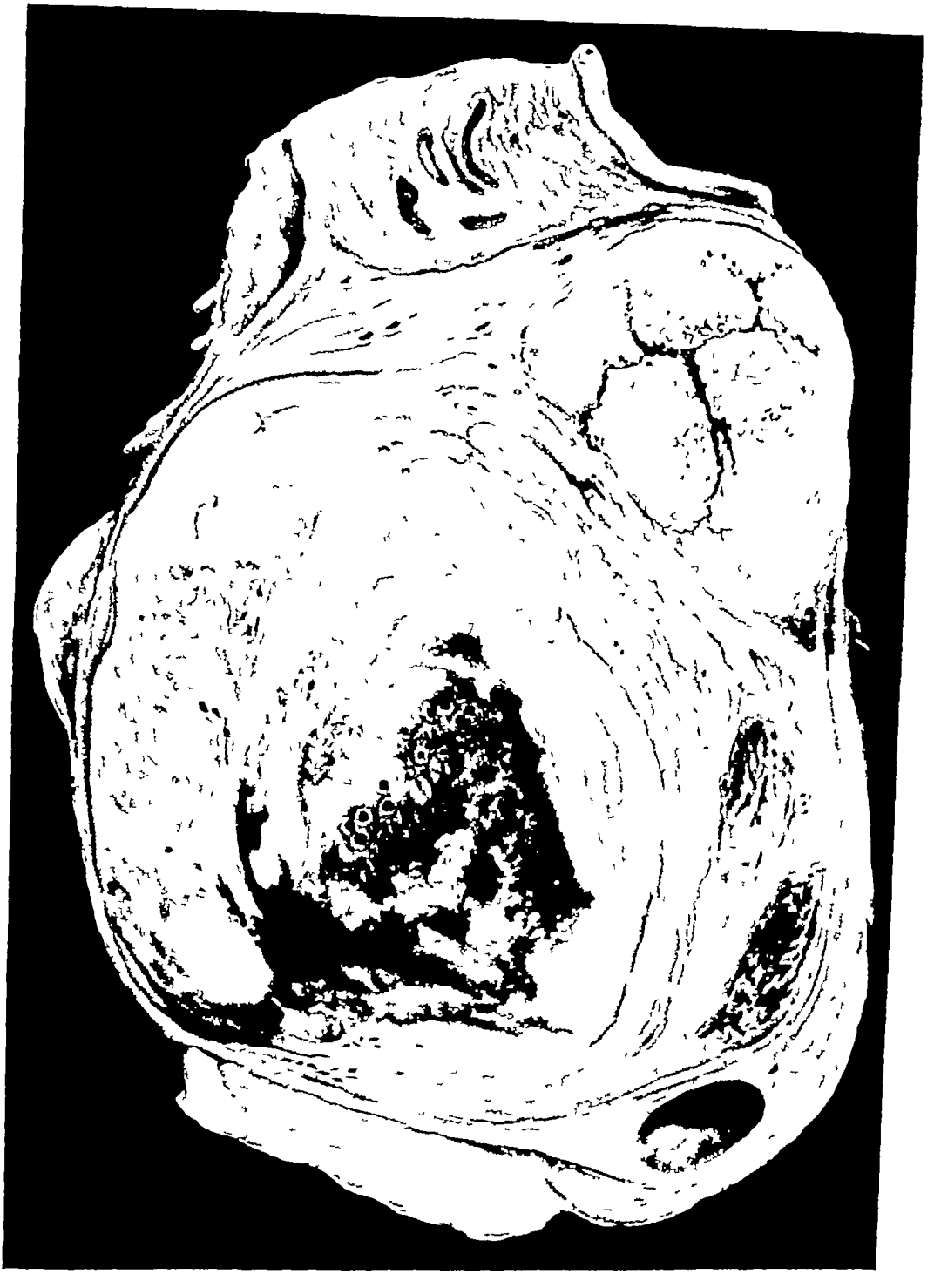


FIG 37.—Seminoma of testicle. Dysuria due to impaction of tumour in pelvis. Removal. Death from metastases in lung three months later.

was by the thoracic route I recently operated upon a great friend in whom the whole stomach spleen and much omentum were contained in his chest occasioning severe and crippling indigestion (*Fig* 38) The operation performed almost on the tenth anniversary of his wounding was remarkable for the lighting up of the old war infection of a decade before and an infected hæmothorax retarded his convalescence for some time Nevertheless eighteen months after his operation he had put on nearly 4 stone in weight and could score 87 runs in one innings at cricket

Just as the ectopic organ is pre-eminently prone to disease so too may a normal process abnormally staged be overhung by the menace of catastrophe When the oösperm engrafts itself upon Fallopian tube or ovary this ectopy of implantation is the presage of certain calamity but in no case of surgical adventure does operation yield such dramatic results Yet abnormality may be still more abnormal tubal pregnancy may be bilateral it may coexist with a uterine pregnancy and the tubal pregnancy may contain twins or even triplets in the one tube I have myself operated upon a case of tubal twins which unhappily proved fatal subsequently from intestinal obstruction "

It is interesting that 25 per cent of those submitted to operation for extra uterine gestation subsequently conceive normally but others again develop an ectopic pregnancy It is said by Sigard that in 6 per cent the latter is on the same side as before but Dragomirescо[67] could only collect a dozen such cases he emphasizes the extreme importance of ensuring that the salpingectomy is

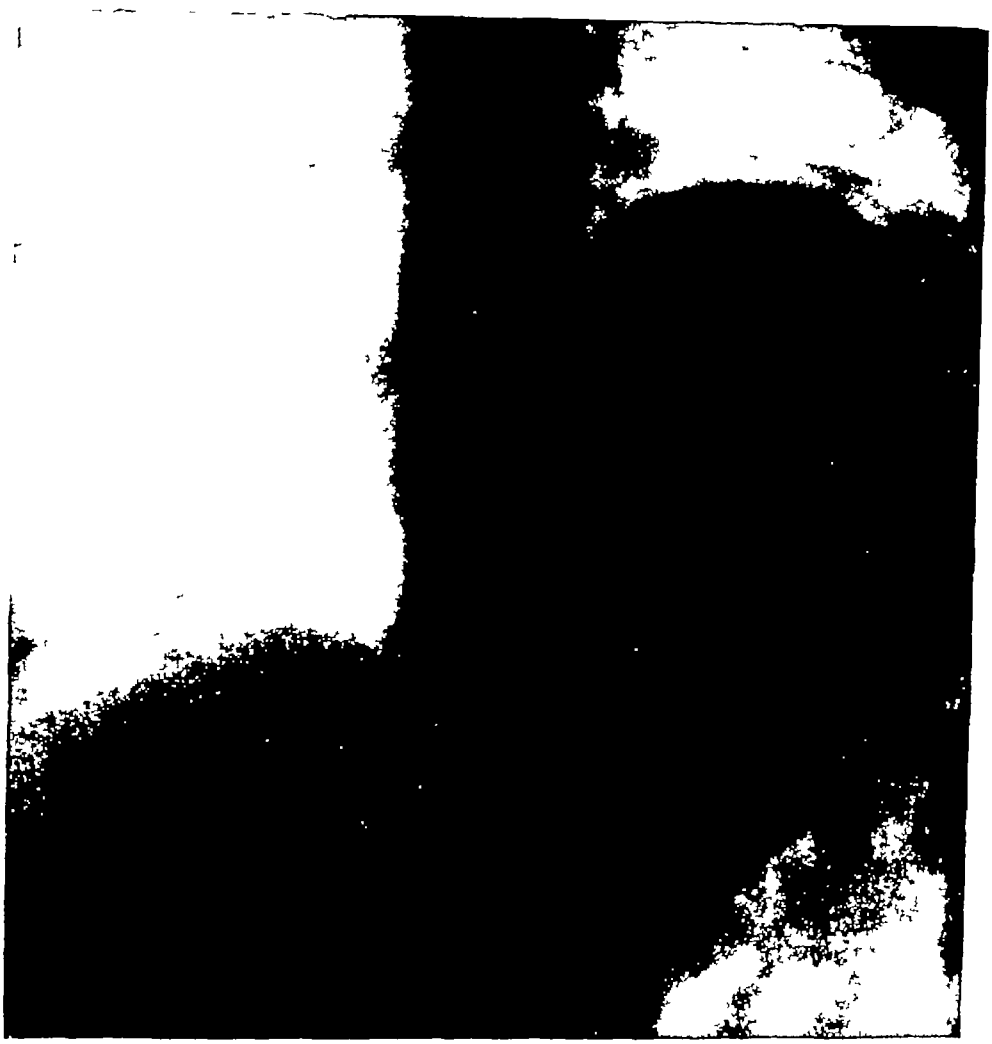


FIG 38.—W B L Traumatic diaphragmatic hernia following gunshot wound, August, 1917 Radiogram showing stomach in left chest Successful operation in 1927 by transpleural route

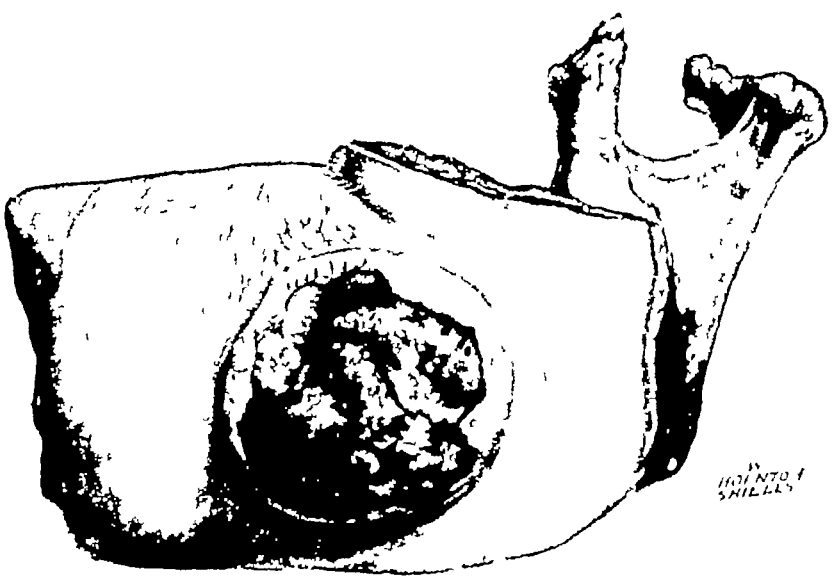
complete and affirms the necessity of ablating also the uterine segment of the tube

When war shall cease much that is dramatic about surgery shall pass away for ever and remain only as a memory and when those regions of the human body which still refuse to admit subjugation under the surgeon's knife shall be a territory into which the veriest novice may penetrate with certainty and safety much of the splendour of surgery may disappear certain knowledge of the dread scourge of cancer will one day put in our hands some more certain cure than we at present possess and much of the heroic shall pass into oblivion

Even now with the advent of radium therapy there are indications of a great change of attitude to the problem of the treatment of malignant disease the weak kneed and chicken hearted amongst operators may now compete on equal terms with the courageous and the bold the radium barrage levels all distinctions of surgical prowess or bravery

It is of course the earnest hope of all who practise surgery that the haphazard and capricious cures wrested from the cancer enemy by those who are possessed of courage and blessed with special good fortune (*Figs* 39 40) may be replaced by universal and invariable victories obtainable by each and every surgeon whosoever he be by methods as simple and as sure as those whereby we can cure the many maladies that have been already conquered by scientific medicine Furthermore *it is the hope and trust of all that not only shall we cure but that we shall also prevent* In that golden cancer era gross mechanical

FIGS 39 and 40 — Malignant epithelioma of jaw involving floor of mouth, side of tongue and cheek Excision of half jaw, cheek, etc Transplantation of flap from forehead Patient alive and well three years later



destruction of disease and cruel mutilation of tissue shall be no more *These times are not yet!* In the meantime and indeed so long as the drama of life and death is played there will still be dramatic moments and dramatic opportunities for surgeons possessed of skill of courage and of hope

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